



**Michigan State Police
2019 Tire Testing**

STATE OF MICHIGAN
Department of State Police
and
Department of Technology, Management and Budget



2019 Tire Testing

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TABLE OF CONTENTS

Test Overview	4
Tire Photos	5-7
Dodge Charger	8
Goodyear RS-A	9-11
Goodyear Eagle Enforcer All Weather	12-14
Nokian WRG3	15-17
Nokian WRG4	18-20
TOYO Celsius AW	21-23
TOYO Observe Winter GSi-6 HP	24-26
Dodge Charger Acceleration Comparison	27
Dodge Charger Deceleration Comparison	28
Chevrolet Tahoe	29
Goodyear RS-A	30-32
Goodyear Eagle Enforcer All Weather	33-35
Nokian WRG3	36-38
Nokian WRG4	39-41
Chevrolet Tahoe Acceleration Comparison	42
Chevrolet Tahoe Deceleration Comparison	43
Ford Utility	44
Goodyear RS-A	45-46
Goodyear Eagle Enforcer All Weather	47-48
Nokian WRG3	49-50
Nokian WRG4	51-52
TOYO Celsius AW	53-54
TOYO Observe Winter GSi-6 HP	55-56
Ford Utility Acceleration Comparison	57
Ford Utility Deceleration Comparison	58

Test Overview

General Information

The Michigan State Police maintain a patrol fleet of approximately 1350 vehicles. In May of 2013, the decision was made to move from dedicated summer and winter tires, to running an all-weather tire on the vehicles year-round. This decision was based on the financial benefits of replacing tires only when worn out, and the discovery of an all-weather tire that performed well in both summer and winter conditions.

Since the move to an all-weather tire was made, the Michigan State Police Precision Driving Unit has performed an annual winter tire testing program to confirm that our choice of tires provides the best combination of traction and handling for our road patrol officers. This year's testing included all season tires, all weather tires, and dedicated winter tires. The testing was performed on tires available for all three of our patrol vehicle platforms (Chevrolet Tahoe, Dodge Charger, and Ford Utility). It should be noted that we utilize the optional P245/55R18 tire size on the Dodge Charger as that allows us to stock only one tire size for both it and the Ford Utility.

Winter Testing

The testing was performed at the Keweenaw Research Center in Hancock, Michigan on January 29 - 31, 2019. This year's testing was focused on acceleration, deceleration, and lateral acceleration. The Vehicle Dynamics Area One was used for the acceleration and deceleration testing. Lateral acceleration testing was performed on the 300-foot circle. Both areas provide hard packed snow surfaces which are groomed every four hours by the Keweenaw Research Center employees. Coefficient of friction measurement equipment was not available during this testing; therefore, each test day was benchmarked using the Goodyear Eagle RSA tire that comes standard on each vehicle.

Temperatures during testing were as follows:

Day	8 a.m.	Midday High/Low	5 p.m.
January 29, 2019	5° F	8° F	3° F
January 30, 2019	-6° F	-8° F	0° F
January 31, 2019	-9° F	-3° F	-4° F

Light snow was the predominate weather condition on January 29, 2019. January 30, 2019 saw heavy and blowing snow. January 31, 2019, was mostly cloudy with periods of sunshine. Acceleration values were captured using Race Logic VBox 3i GPS based equipment.

Summer Wear Testing

Tire wear durability testing was completed on August 13 and 14, 2019, at the Michigan State Police Precision Driving Unit. Each tire completed ten laps counterclockwise, then ten laps clockwise at limit handling speeds. Track temperature and tread depth were measured after each 20-lap session. Durability testing for the P245/55R18 sized tires was performed only on the Dodge Charger AWD platform as we had only one set of tires from each manufacturer.

Temperatures during testing were as follows:

Day	8 a.m.	Midday High/Low	5 p.m.
August 13, 2019	69° F	78° F	84° F
August 14, 2019	64° F	75° F	79° F

Tires Tested

Goodyear Eagle RS-A

Platforms Tested: Dodge Charger, Chevrolet Tahoe, and Ford Utility



Goodyear Eagle Enforcer All Weather

Platforms Tested: Dodge Charger, Chevrolet Tahoe, and Ford Utility



Nokian WRG3

Platforms Tested: Dodge Charger, Chevrolet Tahoe, and Ford Utility



Nokian WRG4

Platforms Tested: Dodge Charger, Chevrolet Tahoe, and Ford Utility



TOYO Celsius AW

Platforms Tested: Dodge Charger and Ford Utility



TOYO Observe Winter GSi-6 HP

Platforms Tested: Dodge Charger and Ford Utility



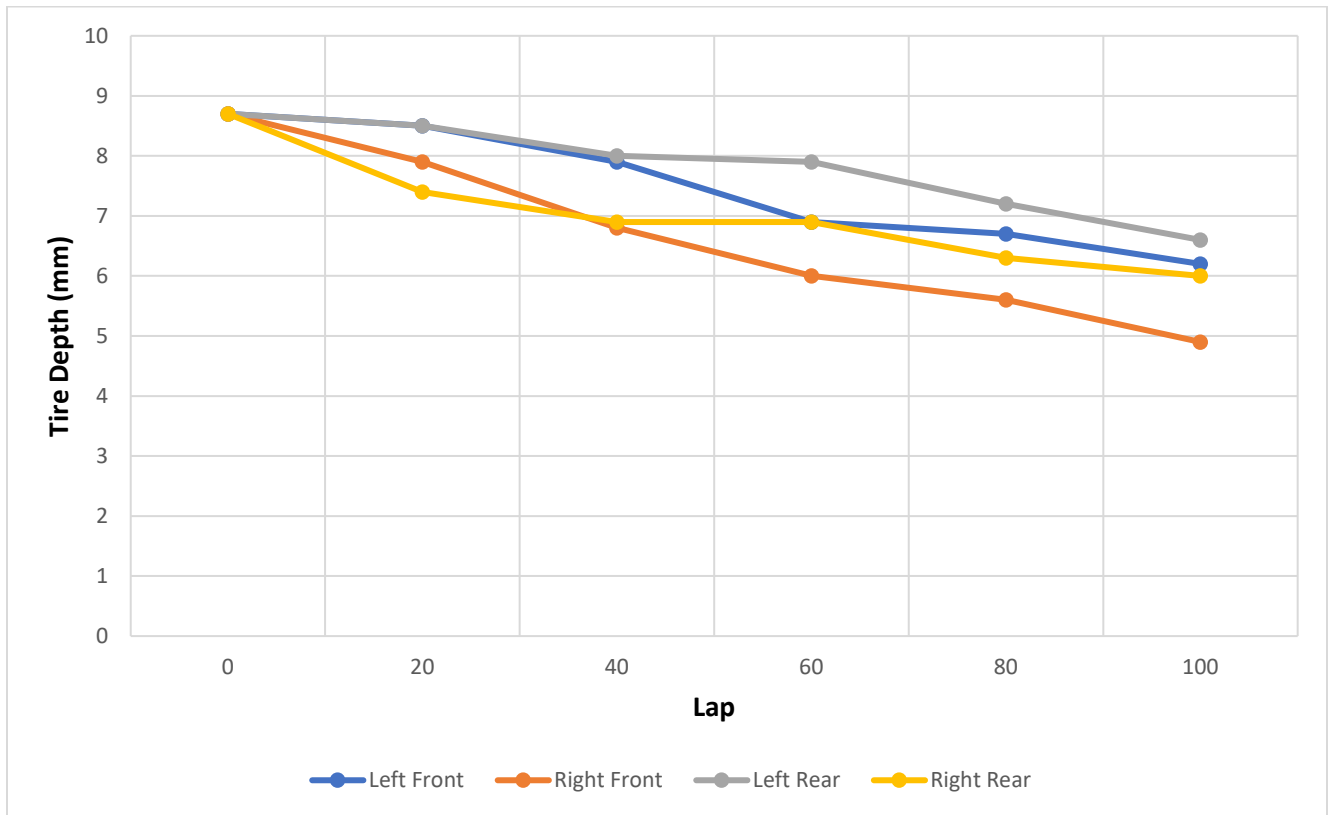
Dodge Charger



***All tires were tested in size P245/55R18**

Tire Wear Testing Good Year Eagle RS-A

Lap	Left Front (mm)	Right Front (mm)	Left Rear (mm)	Right Rear (mm)	Track Temp. (°F)
0	8.7	8.7	8.7	8.7	
20	8.5	7.9	8.5	7.4	95.6
40	7.9	6.8	8	6.9	104
60	6.9	6	7.9	6.9	105
80	6.7	5.6	7.2	6.3	100
100	6.2	4.9	6.6	6	112



Goodyear Eagle RS-A Winter Acceleration

Acceleration 0-30 Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	11.31	8.98	10.41	8.78	8.18	8.94	8.83	8.32	9.52	8.55	9.18
Distance (f)	252.76	192.28	242.27	185.85	171.81	182.01	193.00	174.35	208.33	180.63	198.33
Average Acceleration	3.83	5.03	4.00	5.21	5.64	5.32	5.02	5.55	4.65	5.36	4.96
Peak Acceleration	5.62	6.36	6.57	6.90	6.58	6.42	5.84	7.16	5.27	6.44	6.32

Acceleration 0-30 Traction Control Off

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	9.21	8.51	9.77	8.53	8.95	9.09	9.69	8.45	10.64	10.27	9.31
Distance (f)	215.42	196.48	220.51	179.98	198.77	180.19	211.18	191.96	202.58	183.07	198.01
Average Acceleration	4.49	4.92	4.39	5.38	4.87	5.37	4.58	5.04	4.78	5.29	4.91
Peak Acceleration	6.85	7.31	5.98	7.34	6.42	7.38	6.36	6.80	6.49	7.63	6.86

Acceleration 7-30 (Rolling Start) Traction Control On

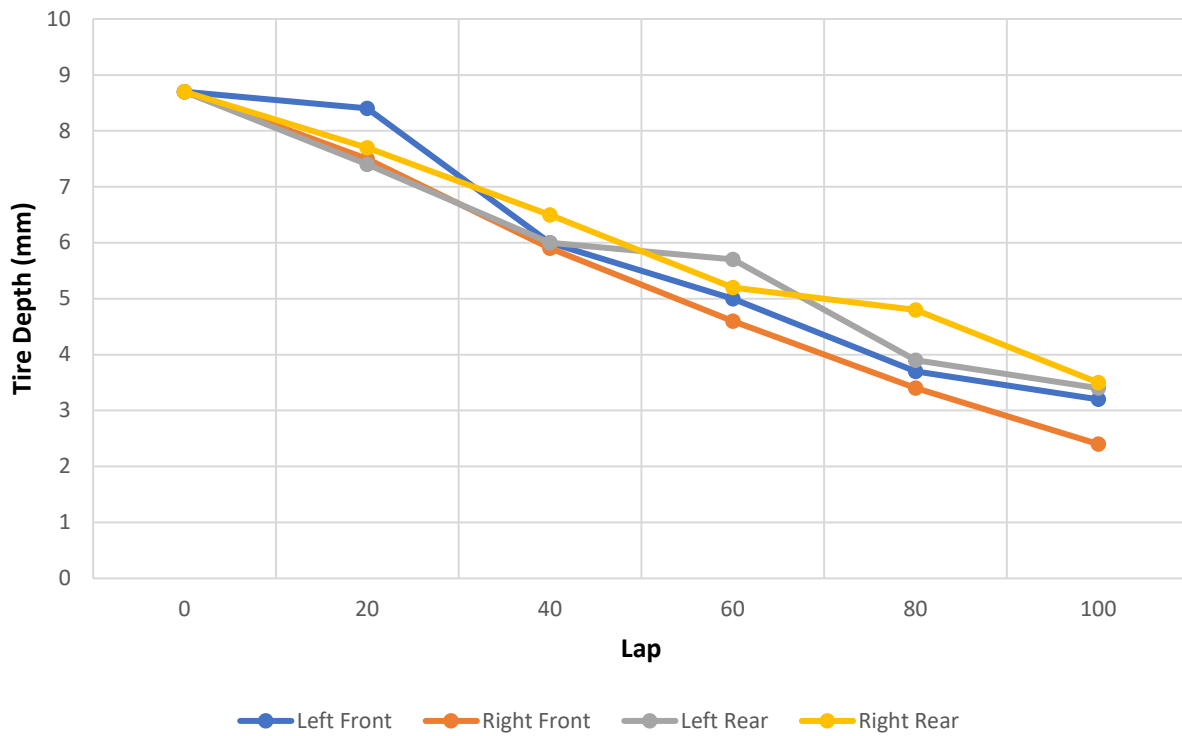
Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	6.86	6.28	7.26	6.50	6.25	6.59	6.65	6.55	6.34	N/A	6.59
Distance (f)	187.51	166.31	204.67	177.70	168.07	173.65	182.24	176.86	172.45	N/A	178.83
Average Acceleration	4.88	5.50	4.48	5.15	5.45	5.27	5.02	5.17	5.31	N/A	5.14
Peak Acceleration	6.49	7.63	5.78	5.98	6.20	7.58	5.99	5.84	5.92	N/A	6.38

Goodyear Eagle RS-A Winter Deceleration

Run	Initial Velocity	Distance (f)	Average Deceleration
1	30.00	140.24	-7.03
2	30.00	145.40	-6.83
3	30.00	145.24	-6.76
4	30.00	138.22	-7.16
5	30.00	133.67	-7.66
6	30.00	135.75	-7.19
7	30.00	139.43	-7.18
8	30.00	136.99	-7.23
9	30.00	149.14	-6.98
10	30.00	131.43	-7.34
11	30.00	132.37	-7.52
12	30.00	130.66	-7.56
13	30.00	127.46	-7.68
14	30.00	133.65	-7.29
15	30.00	126.01	-7.78
16	30.00	131.45	-7.44
17	30.00	132.66	-7.57
18	30.00	132.54	-7.33
19	30.00	133.73	-7.53
20	30.00	138.89	-7.17
21	30.00	133.62	-7.44
22	30.00	133.60	-7.27
23	30.00	129.34	-7.64
24	30.00	141.35	-7.24
25	30.00	131.45	-7.42
26	30.00	141.12	-7.30
27	30.00	141.52	-6.98
28	N/A	N/A	N/A
29	N/A	N/A	N/A
30	N/A	N/A	N/A
Average	30.00	135.81	-7.32

Tire Wear Testing Goodyear Eagle Enforcer All Weather

Lap	Left Front (mm)	Right Front (mm)	Left Rear (mm)	Right Rear (mm)	Track Temp. (°F)
0	8.7	8.7	8.7	8.7	N/A
20	8.4	7.5	7.4	7.7	91
40	6	5.9	6	6.5	94
60	5	4.6	5.7	5.2	92
80	3.7	3.4	3.9	4.8	88
100	3.2	2.4	3.4	3.5	84



Goodyear Enforcer All Weather Winter Acceleration

Acceleration 0-30 Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	4.39	4.23	4.14	4.10	4.07	5.53	4.43	4.72	4.25	4.20	4.41
Distance (f)	93.03	88.64	88.73	87.77	88.00	109.36	88.34	94.07	89.25	85.21	91.24
Average Acceleration	10.38	10.93	10.91	11.02	11.00	8.85	10.95	10.30	10.85	11.36	10.66
Peak Acceleration	12.21	12.12	12.28	12.18	11.72	11.86	12.59	12.55	11.94	13.04	12.25

Acceleration 0-30 Traction Control Off

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	4.35	4.06	4.47	4.21	4.18	4.40	4.49	4.68	4.50	4.10	4.34
Distance (f)	92.74	85.65	94.31	86.78	91.97	95.18	93.90	104.18	91.39	85.79	92.19
Average Acceleration	10.43	11.30	10.27	11.18	10.52	10.17	10.31	9.29	10.61	11.28	10.54
Peak Acceleration	11.82	12.13	11.80	11.74	11.81	11.48	11.86	10.95	11.76	12.44	11.78

Acceleration 7-30 (Rolling Start) Traction Control On

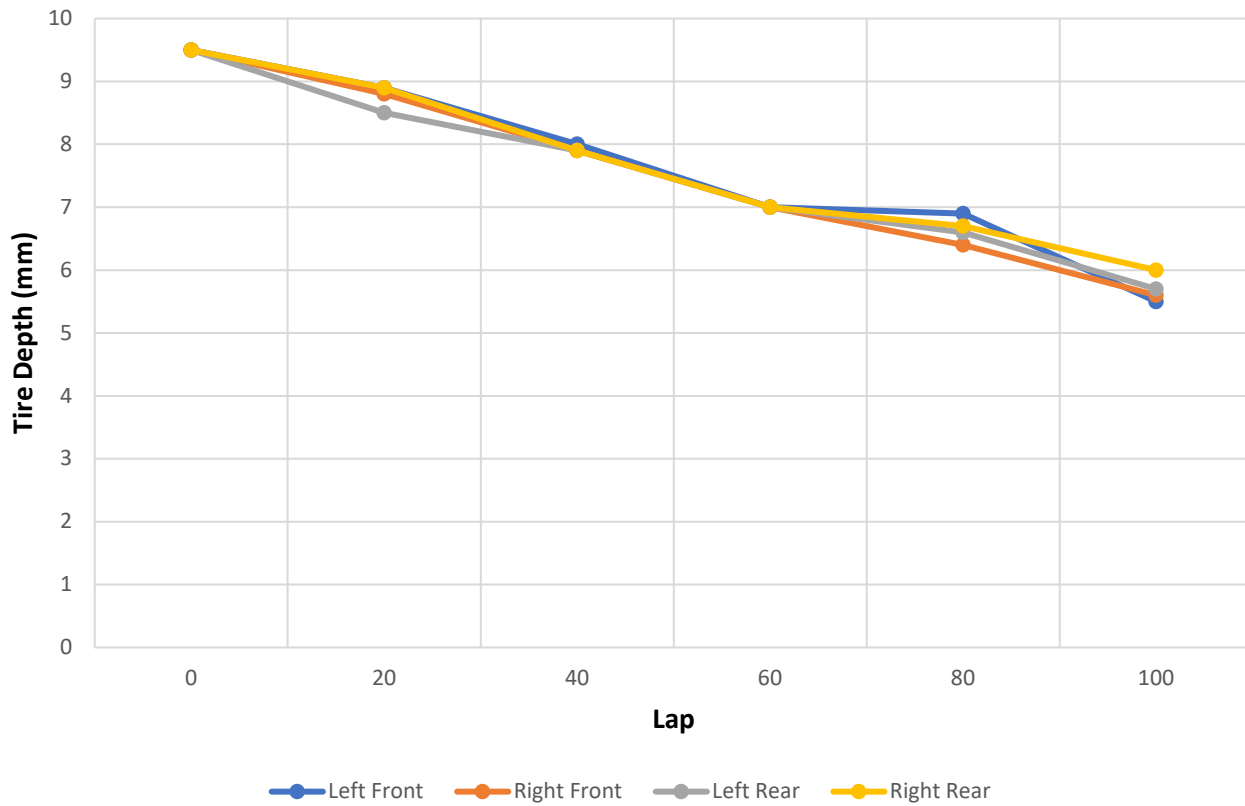
Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	2.86	3.03	2.94	3.09	3.01	2.93	3.04	2.98	3.00	2.97	2.99
Distance (f)	77.52	81.99	78.32	84.69	81.98	78.91	82.27	80.78	83.09	80.23	80.98
Average Acceleration	11.82	11.17	11.69	10.80	11.16	11.59	11.13	11.34	11.07	11.41	11.32
Peak Acceleration	12.70	12.52	12.95	12.23	12.09	12.58	12.25	12.42	12.22	12.69	12.47

Goodyear Enforcer All Weather Winter Deceleration

Run	Initial Velocity	Distance (f)	Average Deceleration
1	30.00	107.42	-9.35
2	30.00	88.44	-10.71
3	30.00	84.25	-11.28
4	30.00	82.63	-11.25
5	30.00	89.51	-10.67
6	30.00	98.54	-10.24
7	30.00	83.75	-11.53
8	30.00	88.40	-10.72
9	30.00	84.56	-11.13
10	30.00	87.17	-11.06
11	30.00	80.10	-11.68
12	30.00	86.87	-10.64
13	30.00	97.08	-10.42
14	30.00	84.49	-11.47
15	30.00	84.03	-11.22
16	30.00	82.65	-11.40
17	30.00	86.54	-11.15
18	30.00	81.10	-11.13
19	30.00	88.20	-10.61
20	30.00	82.21	-11.22
21	30.00	105.36	-9.80
22	30.00	89.15	-10.53
23	30.00	82.21	-11.42
24	30.00	87.51	-10.63
25	30.00	80.58	-11.71
26	30.00	83.14	-11.29
27	30.00	84.88	-10.37
28	30.00	81.58	-11.36
29	30.00	83.99	-10.50
30	30.00	79.89	-12.19
Average	30.00	86.87	-10.96

Tire Wear Testing Nokian WRG3

Lap	Left Front (mm)	Right Front (mm)	Left Rear (mm)	Right Rear (mm)	Track Temp. (°F)
0	9.5	9.5	9.5	9.5	N/A
20	8.9	8.8	8.5	8.9	95.6
40	8	7.9	7.9	7.9	104
60	7	7	7	7	105
80	6.9	6.4	6.6	6.7	100
100	5.5	5.6	5.7	6	112



Nokian WRG3 Winter Acceleration

Acceleration 0-30 Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	5.79	6.23	6.27	5.92	6.07	5.48	5.54	5.83	6.48	5.78	5.94
Distance (f)	124.43	126.72	128.17	125.35	127.78	115.49	118.79	122.75	133.82	118.85	124.22
Average Acceleration	7.79	7.64	7.56	7.73	7.58	8.38	8.15	7.89	7.24	8.14	7.81
Peak Acceleration	9.86	8.96	9.59	9.71	10.08	10.14	10.44	10.74	8.47	10.15	9.81

Acceleration 0-30 Traction Control Off

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	6.46	5.75	5.74	6.21	6.99	6.08	7.33	5.70	6.06	6.18	6.25
Distance (f)	130.74	128.16	132.66	129.58	151.11	130.98	166.09	120.80	141.61	126.10	135.78
Average Acceleration	7.41	7.55	7.28	7.47	6.40	7.39	5.83	8.01	6.83	7.68	7.19
Peak Acceleration	11.15	9.75	10.87	9.97	9.82	11.92	9.36	10.24	11.16	9.99	10.42

Acceleration 7-30 (Rolling Start) Traction Control On

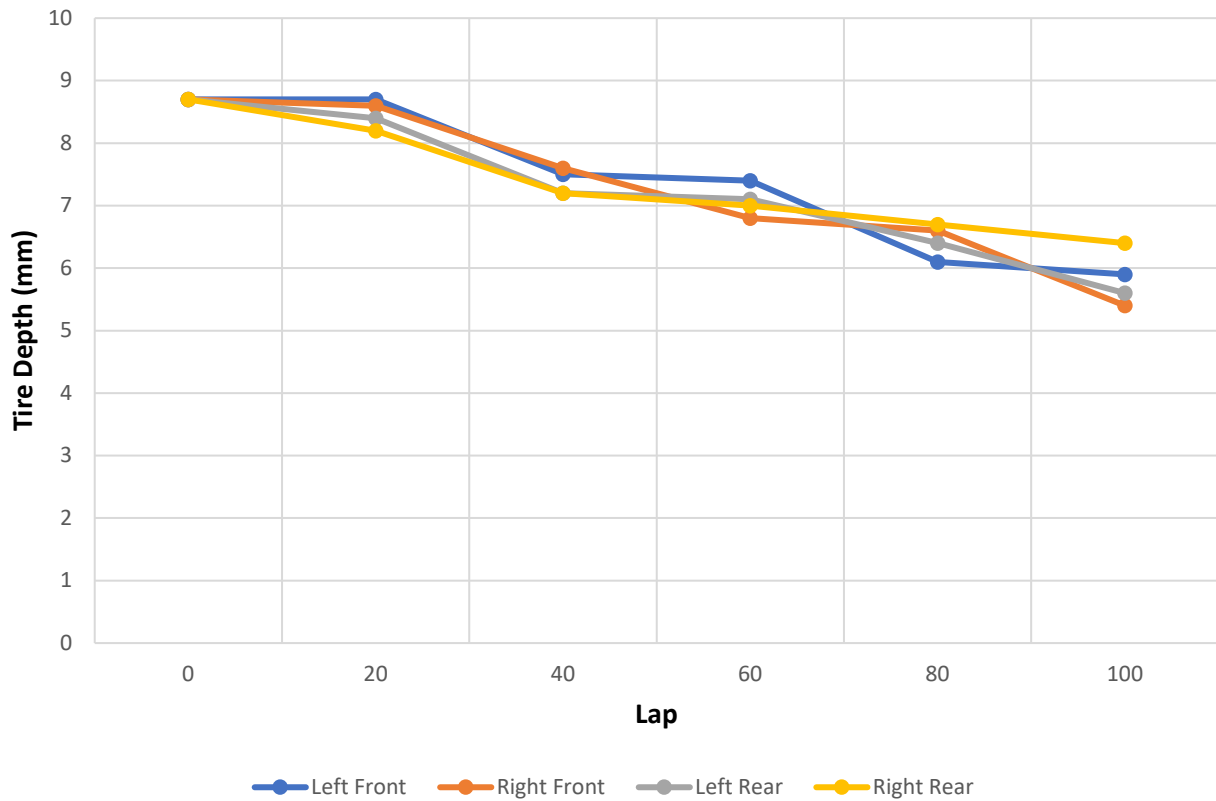
Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	4.68	4.80	4.44	4.34	4.42	4.17	4.58	4.18	4.54	4.28	4.44
Distance (f)	125.36	132.75	119.97	116.99	118.98	111.67	126.68	110.10	122.80	115.86	120.12
Average Acceleration	7.30	6.90	7.63	7.82	7.70	8.20	7.23	8.32	7.47	7.91	7.65
Peak Acceleration	8.42	8.91	8.79	8.66	8.49	8.97	9.04	10.03	8.44	9.13	8.89

Nokian WRG3 Winter Deceleration

Run	Initial Velocity	Distance (f)	Average Deceleration
1	30.00	106.62	-9.46
2	30.00	118.84	-8.55
3	30.00	107.42	-9.48
4	30.00	112.67	-8.90
5	30.00	106.55	-9.48
6	30.00	104.99	-9.50
7	30.00	102.59	-9.60
8	30.00	111.58	-9.36
9	30.00	103.68	-9.84
10	30.00	102.10	-9.81
11	30.00	110.59	-9.23
12	30.00	100.72	-9.37
13	30.00	110.20	-9.03
14	30.00	93.95	-10.42
15	30.00	100.92	-9.49
16	30.00	97.91	-10.10
17	30.00	99.82	-9.99
18	30.00	106.15	-9.20
19	30.00	108.61	-9.35
20	30.00	99.71	-9.78
21	30.00	100.52	-9.57
22	30.00	103.73	-9.69
23	30.00	102.59	-9.46
24	30.00	94.59	-10.07
25	30.00	99.74	-9.60
26	30.00	104.55	-9.57
27	30.00	94.08	-10.21
28	30.00	106.40	-9.71
29	30.00	104.63	-9.71
30	30.00	91.77	-10.40
Average	30.00	103.61	-9.60

Tire Wear Testing Nokian WRG4

Lap	Left Front (mm)	Right Front (mm)	Left Rear (mm)	Right Rear (mm)	Track Temp. (°F)
0	8.7	8.7	8.7	8.7	N/A
20	8.7	8.6	8.4	8.2	110
40	7.5	7.6	7.2	7.2	113
60	7.4	6.8	7.1	7	118
80	6.1	6.6	6.4	6.7	122
100	5.9	5.4	5.6	6.4	117



Nokian WRG4 Winter Acceleration

Acceleration 0-30 Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	5.09	4.81	4.85	4.54	4.68	4.70	4.58	4.60	4.53	4.77	4.72
Distance (f)	109.82	103.22	98.13	97.72	97.07	101.33	97.55	97.43	95.22	100.10	99.76
Average Acceleration	8.82	9.38	9.87	9.90	9.97	9.55	9.92	9.93	10.17	9.67	9.72
Peak Acceleration	9.54	10.57	10.59	10.66	10.94	10.76	10.80	10.67	11.21	10.73	10.65

Acceleration 0-30 Traction Control Off

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	5.07	4.85	4.77	4.92	5.14	5.28	5.89	6.51	7.89	4.93	5.53
Distance (f)	110.79	105.63	107.02	108.69	112.82	117.90	138.66	147.72	202.49	109.56	126.13
Average Acceleration	8.73	9.16	9.05	8.91	8.59	8.21	6.98	6.55	4.78	8.83	7.98
Peak Acceleration	10.39	10.77	10.49	11.63	10.62	10.35	10.09	10.23	9.12	10.64	10.43

Acceleration 7-30 (Rolling Start) Traction Control On

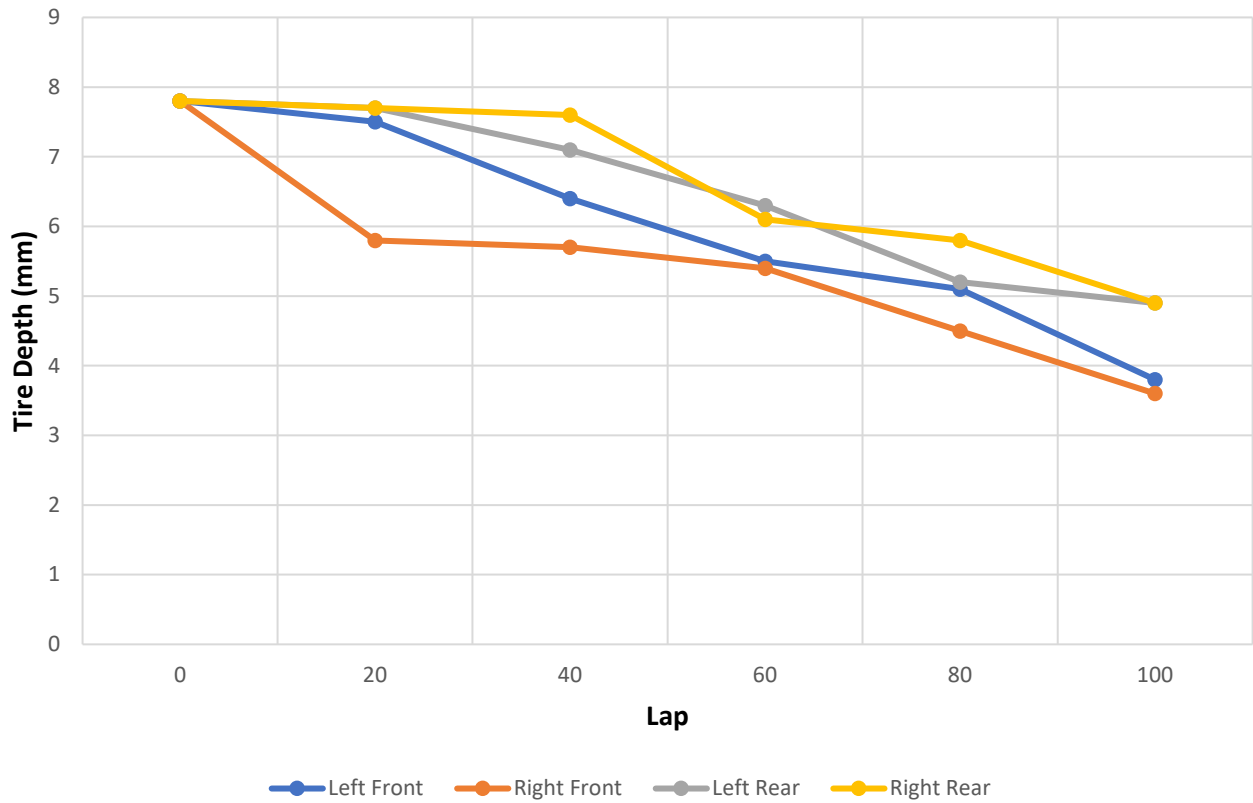
Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	3.45	3.45	3.57	3.27	3.46	3.35	3.22	3.51	3.24	N/A	3.39
Distance (f)	91.95	92.94	95.48	88.26	93.18	91.37	85.51	93.01	87.32	N/A	91.00
Average Acceleration	9.95	9.85	9.60	10.37	9.81	10.02	10.70	9.84	10.47	N/A	10.07
Peak Acceleration	10.83	10.72	10.74	11.50	10.68	10.66	11.60	10.96	11.07	N/A	10.97

Nokian WRG4 Winter Deceleration

Run	Initial Velocity	Distance (f)	Average Deceleration
1	30.00	102.60	-9.92
2	30.00	107.84	-9.25
3	30.00	102.59	-9.86
4	30.00	95.33	-10.22
5	30.00	108.85	-9.46
6	30.00	106.54	-9.44
7	30.00	105.40	-9.66
8	30.00	109.45	-9.45
9	30.00	105.54	-9.67
10	30.00	106.19	-9.72
11	30.00	105.11	-9.77
12	30.00	105.93	-9.74
13	30.00	105.65	-9.71
14	30.00	102.59	-9.58
15	30.00	94.52	-10.40
16	30.00	102.66	-9.89
17	30.00	96.79	-10.14
18	30.00	92.81	-10.39
19	30.00	87.49	-10.82
20	30.00	99.80	-10.09
21	30.00	98.01	-10.37
22	30.00	119.98	-8.96
23	30.00	96.46	-10.46
24	30.00	94.13	-10.20
25	30.00	99.26	-10.09
26	30.00	87.21	-10.95
27	30.00	100.80	-10.09
28	30.00	95.15	-10.28
29	30.00	94.95	-10.29
30	N/A	N/A	N/A
Average	30.00	101.02	-9.96

Tire Wear Testing TOYO Celsius AW

Lap	Left Front (mm)	Right Front (mm)	Left Rear (mm)	Right Rear (mm)	Track Temp. (°F)
0	7.8	7.8	7.8	7.8	N/A
20	7.5	5.8	7.7	7.7	91
40	6.4	5.7	7.1	7.6	94
60	5.5	5.4	6.3	6.1	92
80	5.1	4.5	5.2	5.8	88
100	3.8	3.6	4.9	4.9	84



TOYO Celsius AW Winter Acceleration

Acceleration 0-30 Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	4.61	4.67	4.30	4.46	4.87	4.42	7.96	4.39	4.40	4.14	4.82
Distance (f)	101.72	97.93	89.72	95.70	106.64	91.00	98.02	94.44	91.47	84.43	95.11
Average Acceleration	9.51	9.88	10.79	10.11	9.07	10.64	9.88	10.26	10.58	11.48	10.22
Peak Acceleration	10.47	11.13	12.11	11.26	11.85	11.92	12.07	11.37	11.54	12.51	11.62

Acceleration 0-30 Traction Control Off

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	4.80	4.71	5.41	4.22	4.25	4.35	4.24	4.57	4.57	4.76	4.59
Distance (f)	105.67	109.32	124.89	89.25	91.95	92.77	92.16	96.32	93.18	99.24	99.48
Average Acceleration	9.16	8.84	7.75	10.84	10.53	10.43	10.50	10.04	10.37	9.76	9.82
Peak Acceleration	10.82	11.86	10.46	11.91	11.89	11.48	11.50	11.60	12.13	12.03	11.57

Acceleration 7-30 (Rolling Start) Traction Control On

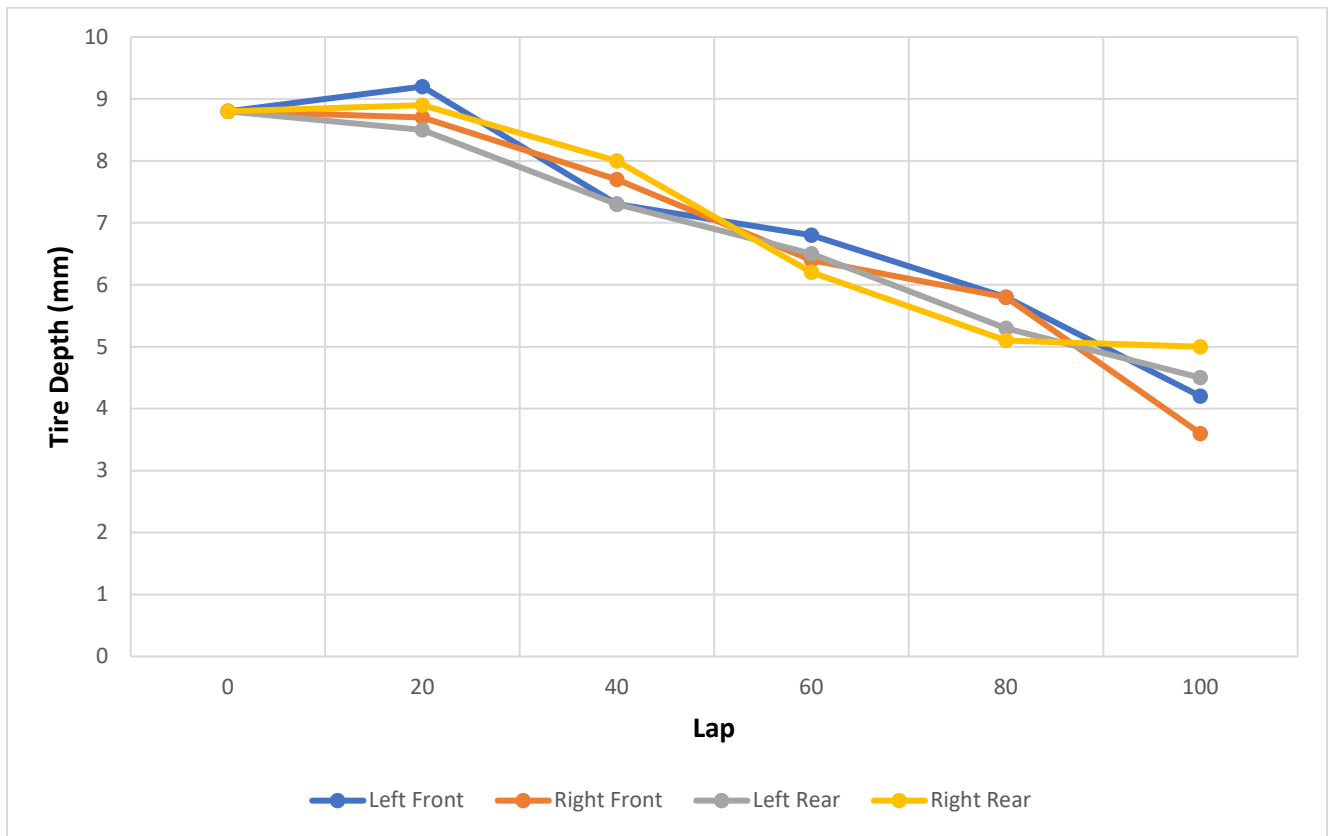
Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	3.73	3.17	2.99	3.26	3.37	3.36	3.14	3.06	3.04	3.33	3.25
Distance (f)	101.86	86.02	80.97	86.94	91.24	90.66	84.20	81.82	82.01	89.62	87.53
Average Acceleration	8.99	10.62	11.30	10.51	10.03	10.09	10.87	11.21	11.16	10.21	10.50
Peak Acceleration	10.54	12.03	11.91	11.66	12.37	11.27	11.71	12.41	11.90	11.42	11.72

TOYO Celsius AW Winter Deceleration

Run	Initial Velocity	Distance (f)	Average Deceleration
1	30.00	93.56	-10.80
2	30.00	104.81	-9.99
3	30.00	83.15	-11.63
4	30.00	86.44	-11.27
5	30.00	83.59	-11.57
6	30.00	87.95	-10.70
7	30.00	86.65	-10.99
8	30.00	80.74	-11.52
9	30.00	87.84	-10.63
10	30.00	82.00	-11.34
11	30.00	85.55	-10.98
12	30.00	85.60	-11.55
13	30.00	80.56	-11.83
14	30.00	93.42	-10.38
15	30.00	88.21	-10.17
16	30.00	90.03	-10.46
17	30.00	84.15	-10.91
18	30.00	88.92	-10.34
19	30.00	85.16	-11.24
20	30.00	87.47	-11.07
21	30.00	82.87	-11.09
22	30.00	98.77	-10.45
23	30.00	84.16	-11.18
24	30.00	82.68	-11.25
25	30.00	100.08	-10.33
26	30.00	88.17	-11.11
27	30.00	85.30	-11.25
28	30.00	84.63	-11.10
29	30.00	94.84	-10.42
30	30.00	84.89	-10.99
Average	30.00	87.74	-10.95

Tire Wear Testing TOYO Observe Winter GSi-6 HP

Lap	Left Front (mm)	Right Front (mm)	Left Rear (mm)	Right Rear (mm)	Track Temp. (°F)
0	8.8	8.8	8.8	8.8	N/A
20	8.2	8.7	8.5	8.8	91
40	7.3	7.7	7.3	8	94
60	6.8	6.4	6.5	6.2	92
80	5.8	5.8	5.3	5.1	88
100	4.2	3.6	4.5	5	84



TOYO Observe Winter GSi-6 HP Winter Acceleration

Acceleration 0-30 Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	4.13	4.51	4.24	4.37	4.46	4.20	4.24	4.69	3.88	4.39	4.31
Distance (f)	86.70	88.00	91.03	88.49	95.62	89.03	90.54	88.91	82.29	87.79	88.84
Average Acceleration	11.15	11.02	10.64	10.94	10.12	10.87	10.69	10.89	11.75	11.02	10.91
Peak Acceleration	12.19	12.36	11.72	11.87	12.00	11.91	12.16	11.88	13.44	12.01	12.15

Acceleration 0-30 Traction Control Off

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	5.38	5.37	4.97	5.10	5.32	5.23	5.62	5.52	5.39	4.70	5.26
Distance (f)	127.33	117.14	108.62	119.91	126.02	107.09	125.10	124.29	116.98	108.62	118.11
Average Acceleration	7.60	8.26	8.91	8.06	7.68	9.04	7.74	7.79	8.29	8.90	8.23
Peak Acceleration	11.32	11.02	11.02	11.75	11.65	10.93	11.25	10.83	10.50	11.84	11.21

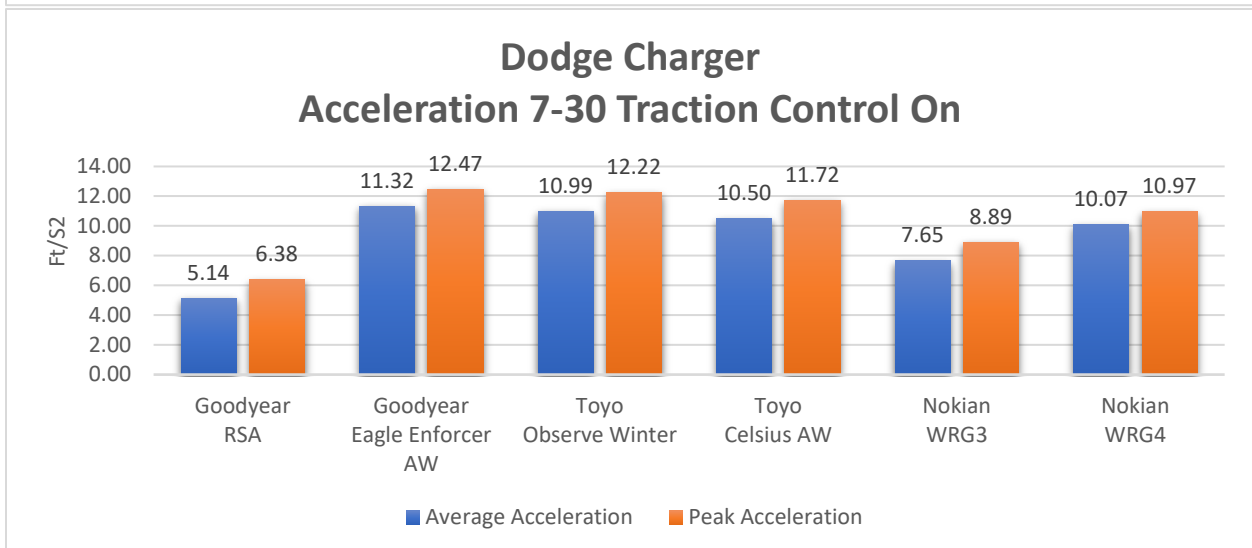
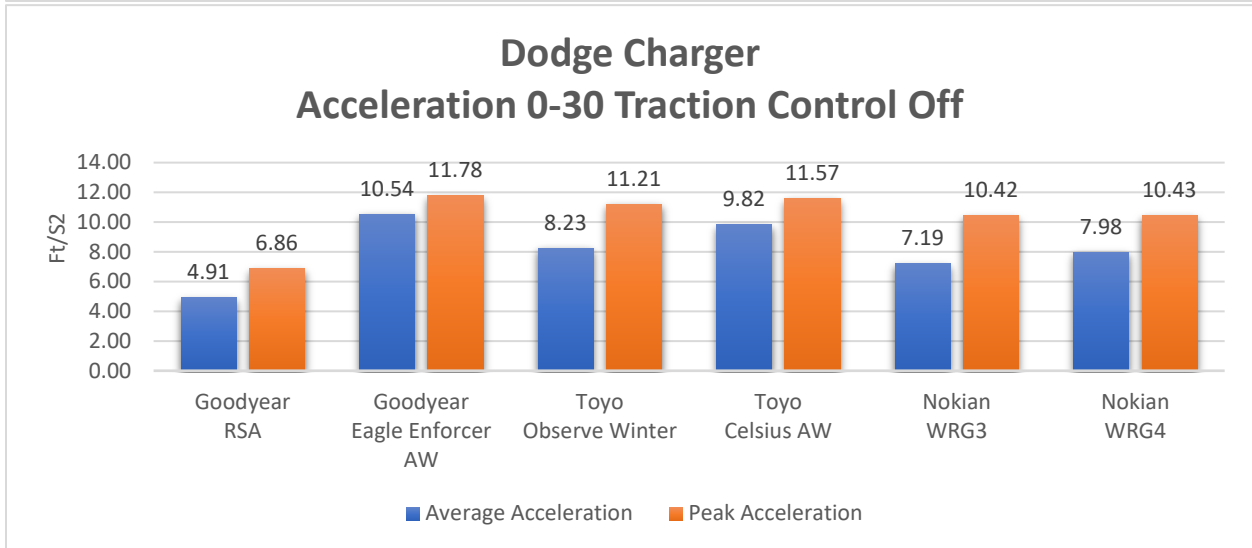
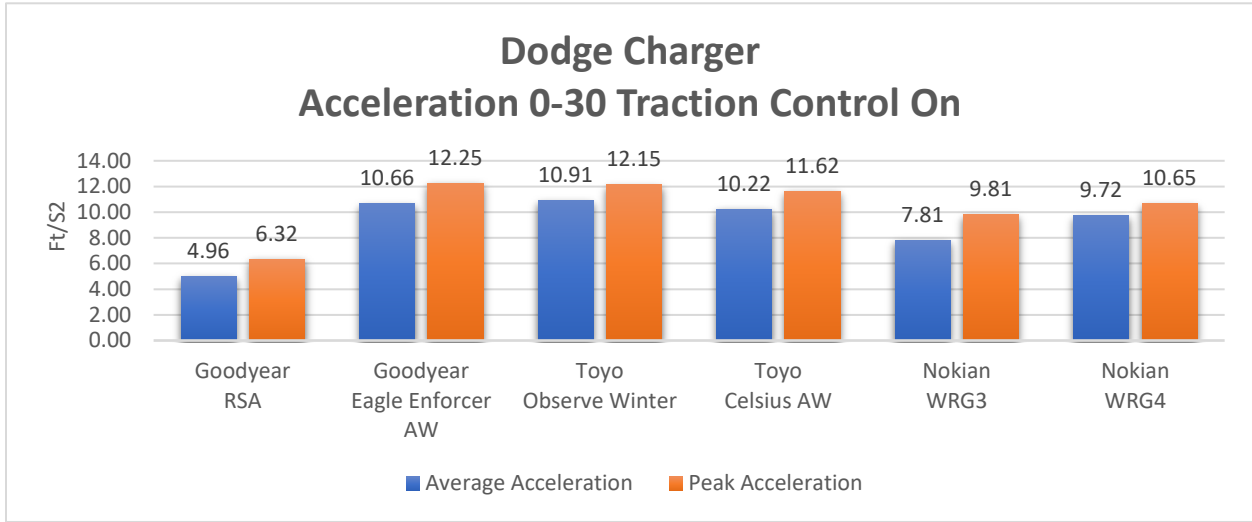
Acceleration 7-30 (Rolling Start) Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	3.30	2.94	3.11	2.87	3.00	2.91	3.01	3.16	3.11	3.42	3.08
Distance (f)	91.37	80.49	83.27	77.07	80.03	80.02	81.71	84.06	84.49	93.70	83.62
Average Acceleration	10.02	11.38	11.00	11.89	11.46	11.44	11.20	10.89	10.83	9.77	10.99
Peak Acceleration	11.81	12.25	12.08	12.85	12.74	12.88	12.29	12.01	12.24	11.00	12.22

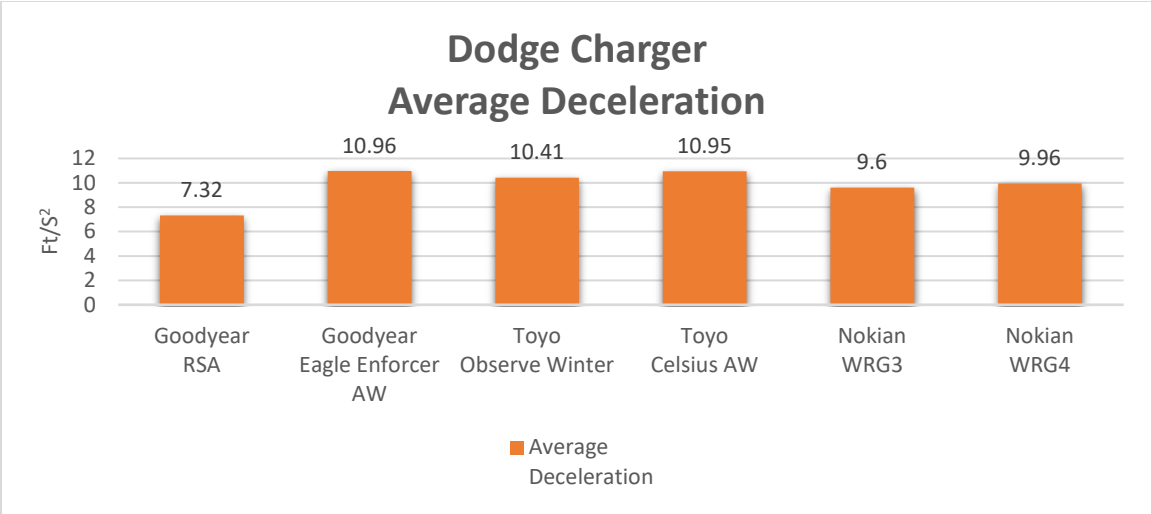
TOYO Observe Winter GSi-6 HP Winter Deceleration

Run	Initial Velocity	Distance (f)	Average Deceleration
1	30.00	87.30	-10.56
2	30.00	84.08	-11.56
3	30.00	85.03	-11.41
4	30.00	92.95	-10.07
5	30.00	98.25	-10.37
6	30.00	102.12	-9.58
7	30.00	97.66	-10.13
8	30.00	92.61	-10.55
9	30.00	103.86	-9.60
10	30.00	106.52	-9.56
11	30.00	100.07	-10.07
12	30.00	102.16	-9.64
13	30.00	97.32	-10.27
14	30.00	102.53	-9.70
15	30.00	93.51	-10.66
16	30.00	97.41	-10.16
17	30.00	95.72	-9.89
18	30.00	89.08	-10.76
19	30.00	88.75	-11.14
20	30.00	95.88	-10.26
21	30.00	92.94	-10.67
22	30.00	94.40	-10.50
23	30.00	95.86	-10.35
24	30.00	92.01	-10.58
25	30.00	90.75	-10.96
26	30.00	87.89	-10.91
27	30.00	86.41	-11.16
28	30.00	100.17	-10.07
29	30.00	88.83	-11.02
30	30.00	98.32	-9.99
Average	30.00	94.68	-10.41

Dodge Charger Acceleration Comparison



Dodge Charger Deceleration Comparison



Chevrolet Tahoe

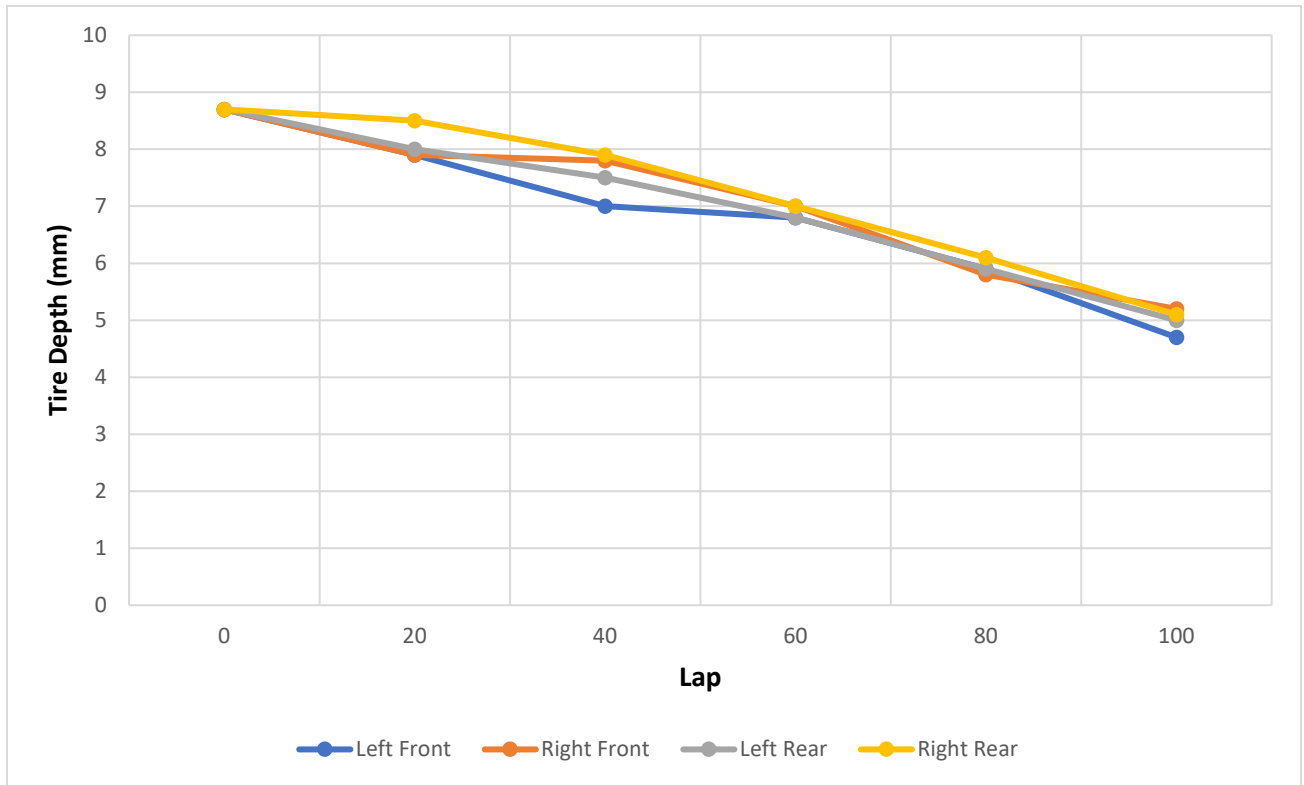


***Goodyear tires were tested in size P265/60R17**

***Nokian tires were tested in size P265/65R17**

Tire Wear Testing Goodyear Eagle RS-A

Lap	Left Front (mm)	Right Front (mm)	Left Rear (mm)	Right Rear (mm)	Track Temp. (°F)
0	8.7	8.7	8.7	8.7	N/A
20	7.9	7.9	8	8.5	95
40	7	7.8	7.5	7.9	104
60	6.8	7	6.8	7	105
80	5.9	5.8	5.9	6.1	100
100	4.7	5.2	5	5.1	112



Goodyear Eagle RS-A Winter Acceleration

Acceleration 0-30 Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	6.10	5.86	6.63	6.05	6.09	5.90	6.39	6.17	6.16	6.32	6.17
Distance (f)	128.67	120.90	136.43	128.80	125.80	125.74	131.55	124.22	131.17	133.81	128.71
Average Acceleration	7.54	8.00	7.10	7.57	7.84	7.75	7.36	7.82	7.43	7.23	7.56
Peak Acceleration	12.00	11.83	12.78	12.60	14.03	12.68	12.86	11.50	11.87	11.78	12.39

Acceleration 0-30 Traction Control Off

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	5.39	6.33	6.48	7.08	5.70	7.21	6.26	6.38	6.48	5.75	6.31
Distance (f)	129.97	139.11	154.73	149.44	132.49	154.53	147.31	153.61	146.31	129.43	143.69
Average Acceleration	7.45	6.98	6.26	6.48	7.31	6.27	6.60	6.35	6.63	7.49	6.78
Peak Acceleration	11.96	10.49	10.15	12.59	11.88	9.77	10.39	10.25	10.74	14.18	11.24

Acceleration 7-30 (Rolling Start) Traction Control On

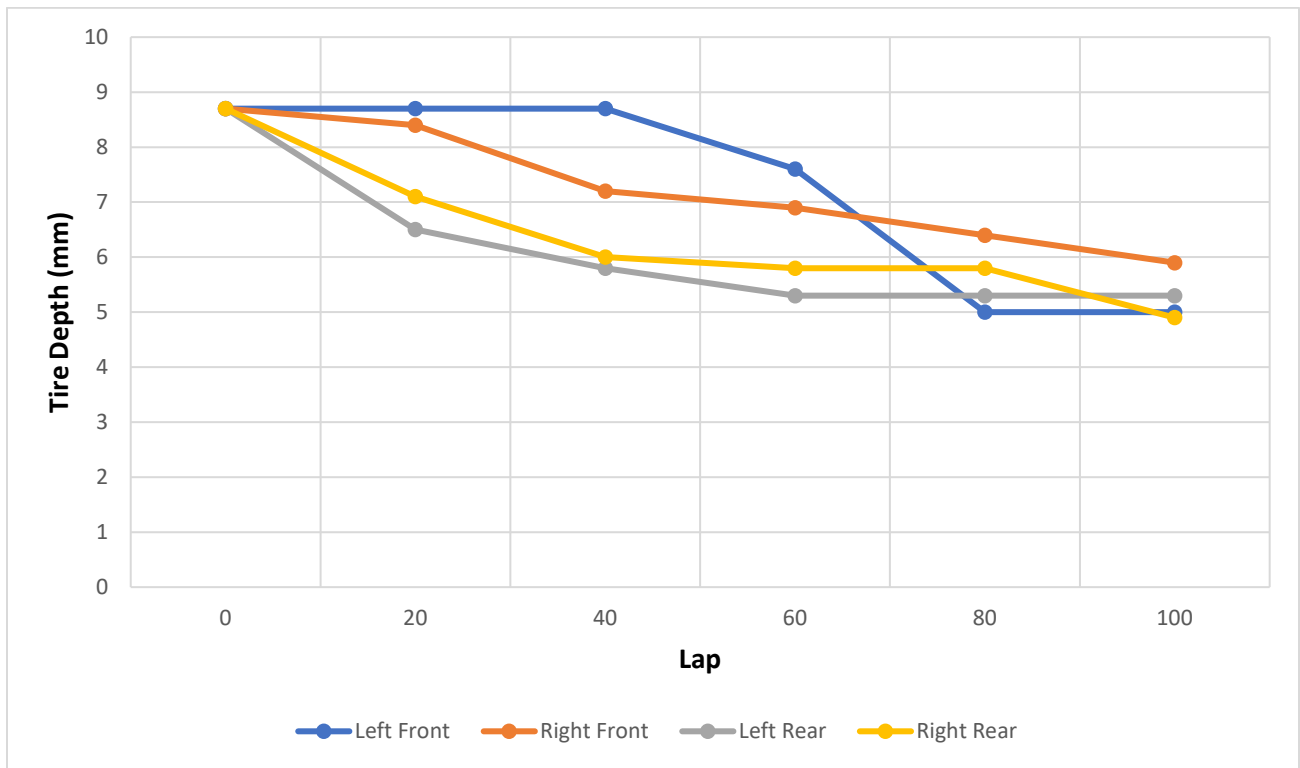
Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	4.59	4.62	4.36	4.80	4.24	4.69	4.63	4.92	4.56	4.92	4.63
Distance (f)	130.20	124.85	120.47	127.24	114.04	131.33	122.33	136.84	122.24	132.83	126.24
Average Acceleration	7.04	7.35	7.62	7.23	8.08	6.97	7.49	6.73	7.52	6.90	7.29
Peak Acceleration	14.42	16.45	11.75	13.37	11.90	12.26	11.04	15.06	14.88	12.88	13.40

Goodyear Eagle RS-A Winter Deceleration

Run	Initial Velocity	Distance (f)	Average Deceleration
1	30.00	119.10	-7.94
2	30.00	114.26	-8.24
3	30.00	119.28	-8.38
4	30.00	119.34	-8.23
5	30.00	116.87	-8.37
6	30.00	111.25	-8.61
7	30.00	128.67	-7.99
8	30.00	110.62	-8.73
9	30.00	114.14	-8.55
10	30.00	112.94	-8.58
11	30.00	117.48	-8.70
12	30.00	107.67	-8.81
13	30.00	116.79	-8.58
14	30.00	127.36	-8.02
15	30.00	115.91	-8.50
16	30.00	132.13	-8.09
17	30.00	107.43	-9.06
18	30.00	114.47	-8.27
19	30.00	125.87	-8.29
20	30.00	117.03	-8.25
21	30.00	126.48	-8.33
22	30.00	132.03	-7.80
23	30.00	112.05	-9.05
24	30.00	112.38	-8.60
25	30.00	122.46	-8.39
26	30.00	122.62	-8.06
27	30.00	108.66	-8.70
28	30.00	121.07	-8.21
29	30.00	101.42	-9.03
30	30.00	109.18	-8.97
Average	30.00	117.23	-8.44

Tire Wear Testing Goodyear Eagle Enforcer All Weather

Lap	Left Front (mm)	Right Front (mm)	Left Rear (mm)	Right Rear (mm)	Track Temp. (°F)
0	8.7	8.7	8.7	8.7	N/A
20	8.7	8.4	6.5	7.1	95
40	8.7	7.2	5.8	6	103
60	7.6	6.9	5.3	5.8	116
80	5	6.4	5.3	5.8	101
100	5	5.9	5.3	4.9	107



Goodyear Eagle Enforcer All Weather Winter Acceleration

Acceleration 0-30 Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	4.35	4.31	4.12	3.94	4.33	4.09	4.05	4.07	4.27	4.18	4.17
Distance (f)	94.82	93.82	88.86	85.33	94.74	89.73	87.31	89.05	92.52	92.31	90.85
Average Acceleration	10.30	10.32	10.87	11.37	10.31	10.84	11.09	10.92	10.47	10.51	10.70
Peak Acceleration	16.37	13.17	13.44	12.89	14.03	12.97	13.47	13.81	14.40	12.59	13.71

Acceleration 0-30 Traction Control Off

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	4.00	4.55	4.52	4.11	3.94	4.03	4.26	4.92	4.49	4.89	4.37
Distance (f)	87.54	93.61	102.35	90.88	84.07	89.98	94.79	113.51	104.31	108.79	96.98
Average Acceleration	11.08	10.36	9.46	10.70	11.51	10.78	10.22	8.53	9.28	8.90	10.08
Peak Acceleration	14.07	12.81	12.75	13.93	13.68	13.87	13.92	11.80	13.58	12.10	13.25

Acceleration 7-30 (Rolling Start) Traction Control On

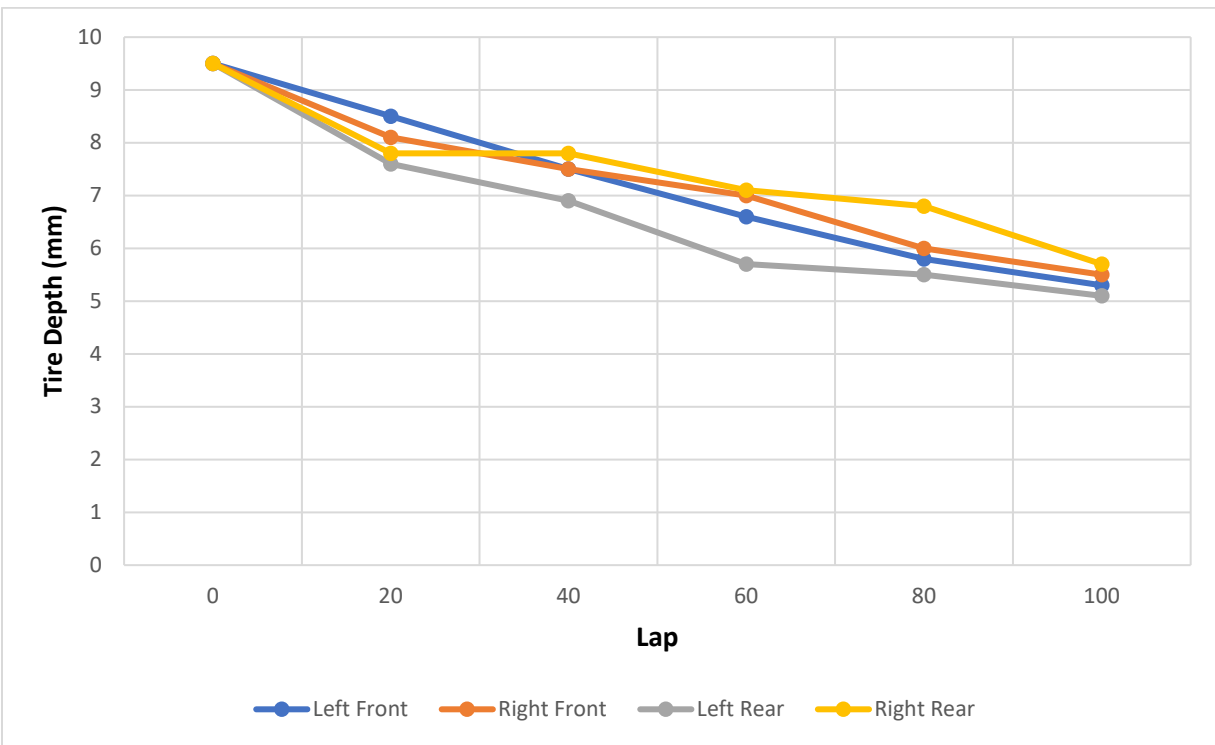
Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	3.12	3.20	3.15	2.91	3.26	3.28	3.16	3.14	3.27	3.02	3.15
Distance (f)	85.30	83.87	83.41	78.56	89.87	86.53	84.20	84.83	84.81	81.94	84.33
Average Acceleration	10.73	10.93	11.06	11.64	10.21	10.61	10.87	10.80	10.81	11.21	10.89
Peak Acceleration	13.97	12.81	13.69	13.73	13.73	13.39	13.37	16.15	16.17	13.30	14.03

Goodyear Eagle Enforcer All Weather Winter Deceleration

Run	Initial Velocity	Distance (f)	Average Deceleration
1	30.00	87.50	-11.03
2	30.00	92.60	-10.70
3	30.00	86.84	-10.58
4	30.00	109.69	-9.54
5	30.00	84.15	-11.12
6	30.00	96.45	-9.92
7	30.00	87.05	-11.21
8	30.00	88.19	-10.78
9	30.00	88.81	-10.96
10	30.00	97.70	-10.45
11	30.00	86.95	-11.11
12	30.00	93.70	-10.44
13	30.00	89.27	-10.71
14	30.00	97.75	-10.35
15	30.00	91.00	-10.65
16	30.00	95.02	-10.39
17	30.00	85.08	-10.95
18	30.00	93.89	-10.64
19	30.00	88.23	-10.94
20	30.00	85.95	-11.08
21	30.00	83.26	-11.44
22	30.00	99.23	-9.99
23	30.00	86.83	-11.23
24	30.00	91.27	-10.61
25	30.00	112.62	-9.61
26	30.00	84.30	-11.38
27	30.00	91.58	-10.35
28	30.00	97.49	-10.35
29	30.00	86.70	-11.30
30	30.00	107.25	-9.95
Average	30.00	92.21	-10.66

Tire Wear Testing Nokian WRG3

Lap	Left Front (mm)	Right Front (mm)	Left Rear (mm)	Right Rear (mm)	Track Temp. (°F)
0	9.5	9.5	9.5	9.5	N/A
20	8.5	8.1	7.6	7.8	110
40	7.5	7.5	6.9	7.8	113
60	6.6	7	5.7	7.1	118
80	5.8	6	5.5	6.8	122
100	5.3	5.5	5.1	5.7	117



Nokian WRG3 Winter Acceleration

Acceleration 0-30 Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	4.38	4.34	4.18	4.29	4.26	4.36	4.31	4.24	4.38	4.23	4.30
Distance (f)	95.32	93.51	90.97	89.05	92.64	93.13	89.34	89.99	91.96	90.15	91.61
Average Acceleration	10.16	10.38	10.64	10.89	10.50	10.41	10.83	10.77	10.58	10.74	10.59
Peak Acceleration	14.45	13.38	14.07	13.79	13.95	13.91	14.31	14.37	14.62	14.52	14.14

Acceleration 0-30 Traction Control Off

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	4.35	4.62	4.36	4.62	4.35	4.29	4.31	4.15	4.03	4.60	4.37
Distance (f)	94.97	99.72	94.48	102.13	93.54	95.25	93.51	88.06	85.21	101.02	94.77
Average Acceleration	10.21	9.72	10.25	9.48	10.35	10.21	10.33	11.03	11.41	9.62	10.27
Peak Acceleration	13.30	13.31	13.65	13.08	14.45	12.90	13.05	12.99	14.29	12.42	13.35

Acceleration 7-30 (Rolling Start) Traction Control On

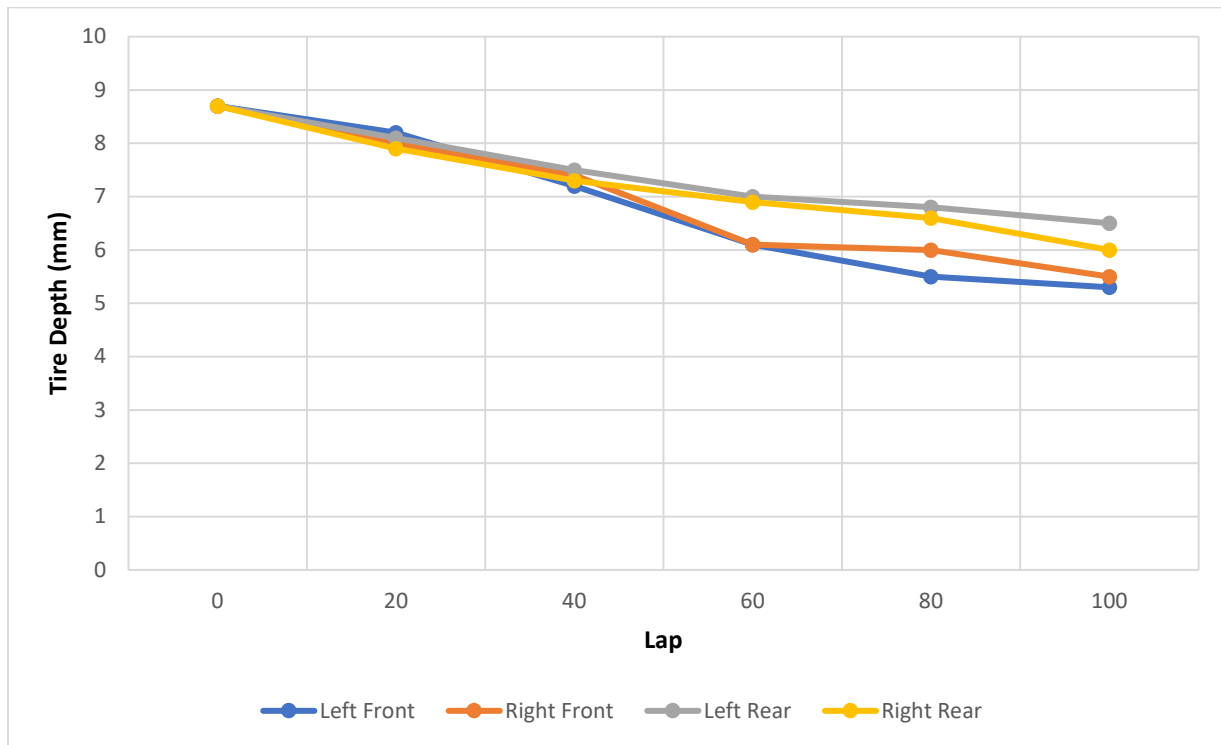
Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	3.17	3.11	3.18	3.06	3.43	3.04	3.41	3.23	3.24	3.06	3.19
Distance (f)	85.03	83.94	85.69	82.61	89.47	81.93	91.68	86.54	87.85	82.66	85.74
Average Acceleration	10.82	10.97	10.70	11.16	10.25	11.17	10.01	10.67	10.42	11.08	10.73
Peak Acceleration	13.34	14.26	13.66	14.01	14.04	13.97	16.56	13.11	13.56	14.25	14.08

Nokian WRG3 Winter Deceleration

Run	Initial Velocity	Distance (f)	Average Deceleration
1	30.00	88.96	-10.91
2	30.00	86.20	-11.16
3	30.00	89.64	-10.83
4	30.00	97.13	-10.26
5	30.00	83.51	-11.28
6	30.00	83.23	-11.32
7	30.00	83.59	-11.29
8	30.00	89.43	-10.49
9	30.00	82.42	-11.61
10	30.00	84.18	-11.38
11	30.00	85.12	-11.29
12	30.00	83.96	-11.40
13	30.00	81.23	-11.49
14	30.00	85.92	-11.21
15	30.00	82.58	-11.43
16	30.00	82.52	-11.62
17	30.00	84.92	-11.24
18	30.00	85.56	-11.24
19	30.00	89.41	-10.76
20	30.00	88.56	-10.83
21	30.00	84.51	-11.24
22	30.00	88.79	-10.88
23	30.00	88.66	-10.93
24	30.00	84.75	-11.29
25	30.00	83.07	-11.39
26	30.00	92.51	-10.73
27	30.00	85.18	-11.25
28	30.00	90.03	-10.68
29	30.00	85.13	-11.15
30	30.00	85.67	-11.28
Average	30.00	86.21	-11.13

Tire Wear Testing Nokian WRG4

Lap	Left Front (mm)	Right Front (mm)	Left Rear (mm)	Right Rear (mm)	Track Temp. (°F)
0	8.7	8.7	8.7	8.7	N/A
20	8.2	8	8.1	7.9	95
40	7.2	7.4	7.5	7.3	103
60	6.1	6.1	7	6.9	116
80	5.5	6	6.8	6.6	101
100	5.3	5.5	6.5	6	107



Nokian WRG4 Winter Acceleration

Acceleration 0-30 Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	5.13	4.96	4.79	4.90	4.99	5.30	4.47	4.99	5.04	5.14	4.97
Distance (f)	111.30	110.64	101.82	103.55	107.66	117.86	96.19	108.33	109.57	114.54	108.15
Average Acceleration	8.74	8.75	9.52	9.43	9.13	8.20	10.06	9.01	8.86	8.48	9.02
Peak Acceleration	12.54	11.95	15.85	14.06	14.14	11.57	12.70	13.70	11.00	12.51	13.00

Acceleration 0-30 Traction Control Off

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	4.26	4.27	4.59	4.96	4.46	4.58	4.53	4.36	4.30	4.57	4.51
Distance (f)	90.73	90.99	98.66	108.79	95.35	98.47	99.80	91.61	94.80	100.82	97.70
Average Acceleration	10.69	10.65	9.81	8.90	10.15	9.84	9.70	10.58	10.26	9.61	9.94
Peak Acceleration	14.08	12.52	12.37	11.92	12.10	12.60	13.20	13.87	12.61	14.26	12.83

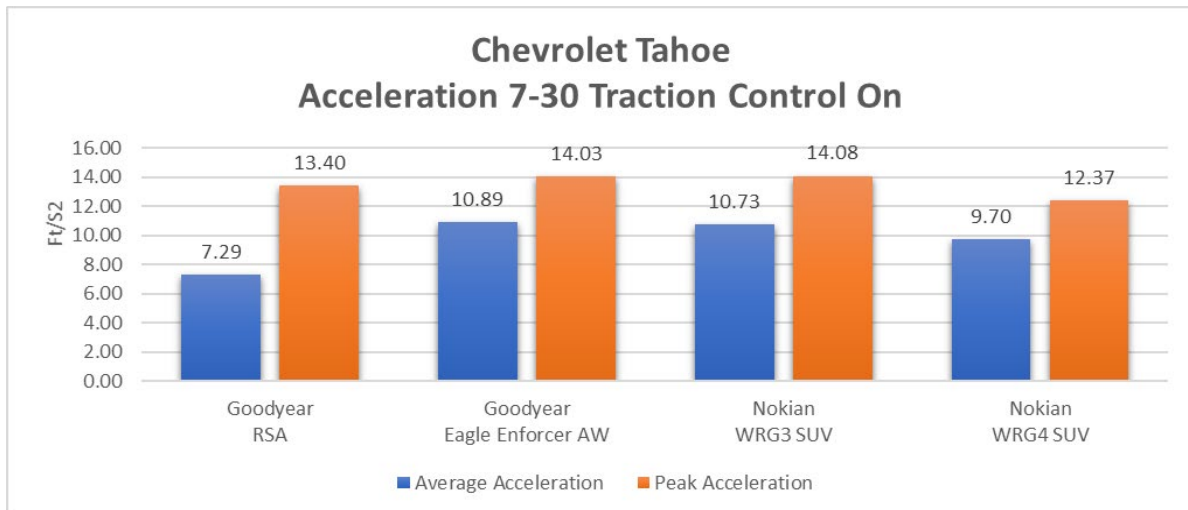
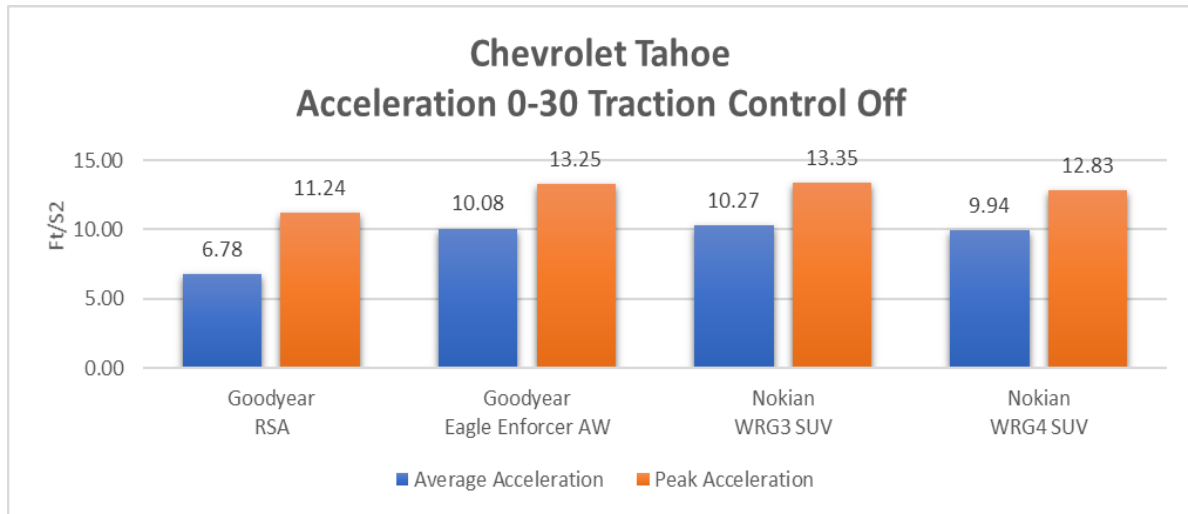
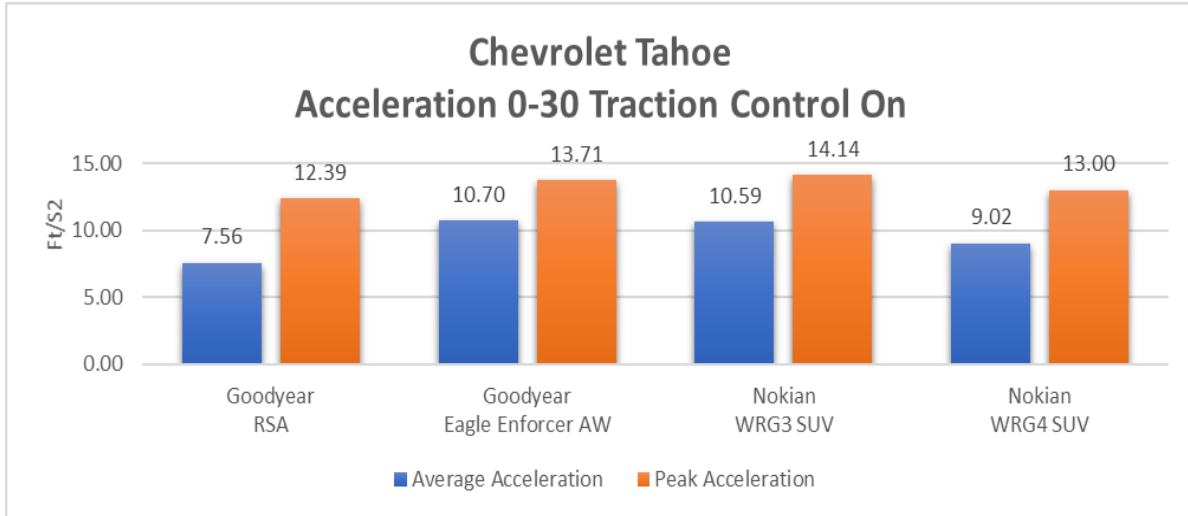
Acceleration 7-30 (Rolling Start) Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	3.77	3.32	3.38	3.71	3.60	3.46	3.35	3.65	3.54	3.37	3.52
Distance (f)	103.66	90.42	91.53	100.39	96.63	91.70	90.90	98.60	95.91	89.19	94.89
Average Acceleration	8.82	10.19	10.00	9.14	9.47	10.06	10.07	9.29	9.58	10.34	9.70
Peak Acceleration	11.64	12.98	12.33	12.79	11.91	12.46	13.16	11.99	11.54	12.94	12.37

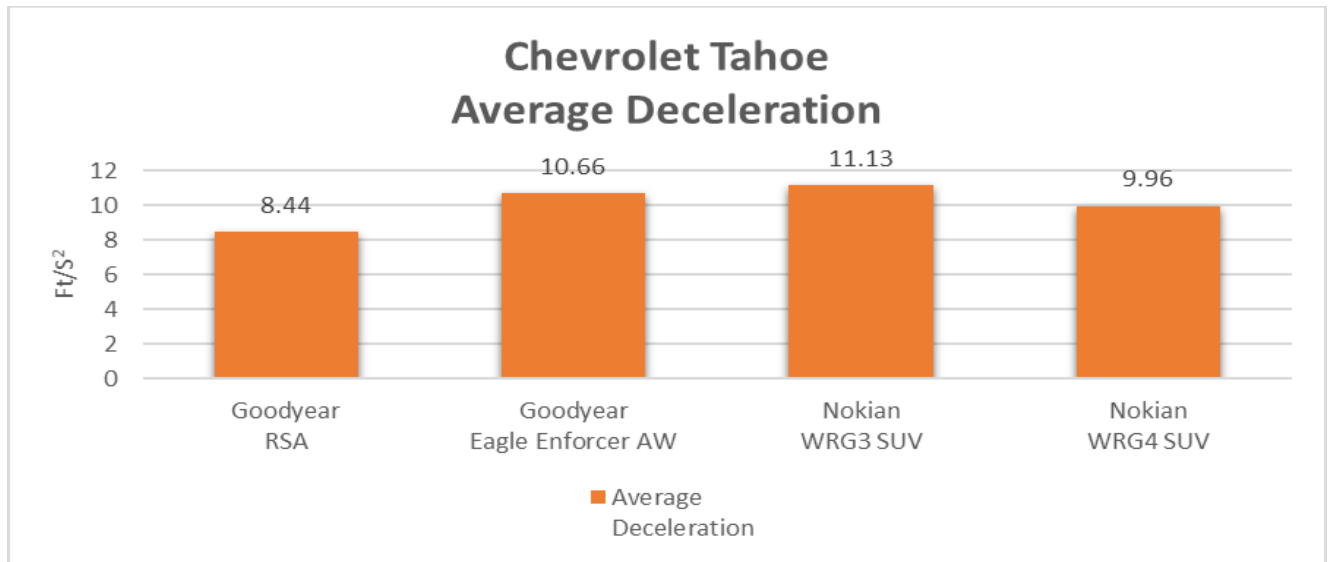
Nokian WRG4 Winter Deceleration

Run	Initial Velocity	Distance (f)	Average Deceleration
1	30.00	99.16	-9.64
2	30.00	98.06	-9.68
3	30.00	99.52	-9.40
4	30.00	100.40	-9.37
5	30.00	93.27	-10.46
6	30.00	92.40	-10.32
7	30.00	98.37	-9.90
8	30.00	100.31	-9.29
9	30.00	93.20	-10.05
10	30.00	96.73	-10.15
11	30.00	96.42	-9.96
12	30.00	104.61	-9.19
13	30.00	93.49	-10.15
14	30.00	91.02	-10.44
15	30.00	95.32	-10.07
16	30.00	93.93	-10.23
17	30.00	92.78	-10.35
18	30.00	95.37	-10.25
19	30.00	97.83	-9.56
20	30.00	93.61	-10.32
21	30.00	94.09	-10.20
22	30.00	98.01	-9.44
23	30.00	96.35	-9.96
24	30.00	92.28	-10.42
25	30.00	92.85	-10.21
26	30.00	97.67	-9.91
27	30.00	101.11	-9.55
28	30.00	93.62	-10.08
29	30.00	96.18	-9.78
30	30.00	93.57	-10.44
Average	30.00	96.05	-9.96

Chevrolet Tahoe Acceleration Comparison



Chevrolet Tahoe Deceleration Comparison



Ford Utility



***All tires were tested in size P245/55R18**

Goodyear Eagle RS-A Winter Acceleration

Acceleration 0-30 Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	8.15	7.62	7.76	7.89	7.85	7.76	7.52	7.73	7.71	7.83	7.78
Distance (f)	171.49	169.55	167.65	167.96	168.43	163.68	158.14	163.36	169.18	168.25	166.77
Average Acceleration	5.65	5.70	5.77	5.78	5.75	5.94	6.15	5.94	5.73	5.75	5.82
Peak Acceleration	9.04	9.37	8.52	8.40	9.36	8.84	8.59	8.84	9.24	8.58	8.88

Acceleration 0-30 Traction Control Off

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	11.08	8.28	7.02	8.42	7.51	8.84	7.35	6.71	7.10	8.56	8.09
Distance (f)	286.74	192.53	161.65	180.68	161.45	190.17	171.67	143.08	159.90	192.18	184.01
Average Acceleration	3.38	5.04	5.99	5.36	6.01	5.11	5.64	6.77	6.09	5.05	5.44
Peak Acceleration	8.35	9.22	9.27	8.30	8.87	7.33	8.65	10.26	10.58	9.65	9.05

Acceleration 7-30 (Rolling Start) Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	5.74	5.18	5.83	5.38	5.28	5.14	5.66	5.41	5.39	5.69	5.47
Distance (f)	152.21	141.28	158.80	141.47	141.00	139.92	150.16	145.52	145.99	151.88	146.82
Average Acceleration	6.02	6.48	5.77	6.50	6.49	6.54	6.10	6.32	6.27	6.03	6.25
Peak Acceleration	9.16	9.01	9.22	9.72	8.65	9.16	9.15	8.97	9.58	8.70	9.13

Goodyear Eagle RS-A Winter Deceleration

Run	Initial Velocity	Distance (f)	Average Deceleration
1	30.00	122.32	-8.08
2	30.00	139.18	-7.21
3	30.00	128.37	-7.72
4	30.00	127.20	-7.77
5	30.00	130.15	-7.55
6	30.00	121.14	-8.09
7	30.00	134.68	-7.32
8	30.00	123.70	-7.95
9	30.00	131.73	-7.49
10	30.00	123.38	-8.03
11	30.00	125.27	-7.90
12	30.00	125.56	-7.83
13	30.00	127.76	-7.81
14	30.00	140.17	-7.32
15	30.00	128.99	-7.63
16	30.00	123.56	-7.86
17	30.00	121.64	-8.14
18	30.00	128.08	-7.61
19	30.00	153.01	-6.98
20	30.00	127.78	-7.83
21	30.00	125.99	-8.01
22	30.00	120.27	-8.33
23	30.00	119.58	-8.35
24	30.00	120.61	-8.12
25	30.00	120.62	-8.40
26	30.00	124.94	-7.8
27	30.00	120.55	-8.23
28	30.00	124.04	-7.93
29	30.00	128.90	-7.98
30	30.00	123.63	-8.08
Average	30.00	127.09	-7.85

Goodyear Eagle Enforcer All Weather Winter Acceleration

Acceleration 0-30 Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	4.45	4.36	4.16	4.66	4.70	3.99	4.35	4.58	4.20	N/A	4.38
Distance (f)	93.39	94.61	88.17	101.83	102.57	86.09	93.69	99.78	88.73	N/A	94.32
Average Acceleration	10.38	10.23	10.99	9.55	9.46	11.25	10.31	9.77	10.92	N/A	10.32
Peak Acceleration	13.32	12.80	13.06	12.95	12.36	13.55	13.14	13.31	13.13	N/A	13.07

Acceleration 0-30 Traction Control Off

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	5.51	4.71	4.49	5.76	5.20	4.73	4.34	5.43	4.82	4.69	4.97
Distance (f)	99.84	99.81	95.12	109.65	116.88	100.72	88.22	114.21	97.67	101.66	102.38
Average Acceleration	9.71	9.74	10.22	8.84	8.29	9.61	11.01	8.49	9.98	9.54	9.54
Peak Acceleration	12.38	12.20	12.90	11.77	12.60	12.08	13.32	10.89	12.75	12.10	12.30

Acceleration 7-30 (Rolling Start) Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	3.65	3.82	3.09	3.08	3.43	3.36	3.11	3.17	3.30	3.06	3.31
Distance (f)	100.15	106.35	85.04	83.66	93.22	92.01	84.17	86.25	91.08	84.42	90.64
Average Acceleration	9.16	8.63	10.79	11.05	9.83	9.93	10.88	10.61	10.05	10.85	10.18
Peak Acceleration	11.87	11.88	13.45	12.70	12.34	12.94	12.72	12.63	12.37	13.16	12.61

Goodyear Eagle Enforcer All Weather Winter Deceleration

Run	Initial Velocity	Distance (f)	Average Deceleration
1	30.00	91.82	-10.88
2	30.00	93.85	-10.77
3	30.00	85.78	-11.39
4	30.00	83.84	-11.65
5	30.00	90.41	-10.57
6	30.00	100.96	-10.37
7	30.00	107.46	-10.00
8	30.00	88.84	-11.02
9	30.00	93.53	-10.80
10	30.00	102.77	-10.14
11	30.00	101.47	-9.99
12	30.00	109.99	-9.67
13	30.00	116.74	-9.43
14	30.00	97.82	-10.33
15	30.00	86.45	-11.04
16	30.00	117.50	-9.22
17	30.00	93.75	-10.83
18	30.00	85.54	-11.33
19	30.00	101.94	-9.72
20	30.00	107.38	-9.70
21	30.00	94.16	-10.71
22	30.00	89.44	-11.15
23	30.00	96.30	-10.76
24	30.00	115.72	-9.56
25	30.00	88.90	-11.06
26	30.00	84.92	-11.23
27	30.00	84.83	-11.48
28	30.00	89.11	-11.11
29	30.00	92.35	-10.99
30	30.00	106.52	-9.72
Average	30.00	96.67	-10.55

Nokian WRG3 Winter Acceleration

Acceleration 0-30 Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	4.76	5.01	4.52	5.10	5.01	4.90	4.57	4.94	4.92	4.58	4.83
Distance (f)	100.52	107.14	96.42	103.58	104.60	103.36	94.87	98.96	97.81	95.73	100.30
Average Acceleration	9.63	9.03	10.03	9.34	9.26	9.37	10.20	9.79	9.90	10.13	9.67
Peak Acceleration	11.73	11.73	11.95	11.79	11.77	11.05	12.56	11.33	11.38	11.68	11.70

Acceleration 0-30 Traction Control Off

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	6.36	5.68	4.84	5.17	5.43	5.31	4.49	5.27	5.01	N/A	5.28
Distance (f)	119.75	114.66	99.53	100.24	107.84	109.72	94.02	104.08	102.09	N/A	105.77
Average Acceleration	8.08	8.44	9.72	9.66	8.99	8.82	10.29	9.30	9.48	N/A	9.20
Peak Acceleration	11.72	12.35	12.02	11.64	12.41	11.47	12.10	11.88	11.95	N/A	11.95

Acceleration 7-30 (Rolling Start) Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	3.57	3.31	3.12	3.28	3.61	3.32	3.20	3.33	3.37	3.15	3.33
Distance (f)	94.41	90.66	84.19	90.30	98.03	90.05	87.41	89.23	92.34	85.63	90.23
Average Acceleration	9.70	10.10	10.87	10.12	9.34	10.16	10.47	10.26	9.91	10.69	10.16
Peak Acceleration	11.54	12.72	12.97	12.93	11.90	12.68	12.44	11.93	12.41	13.22	12.47

Nokian WRG3 Winter Deceleration

Run	Initial Velocity	Distance (f)	Average Deceleration
1	30.00	106.06	-9.91
2	30.00	104.17	-9.89
3	30.00	85.01	-10.88
4	30.00	88.66	-10.66
5	30.00	83.25	-11.20
6	30.00	88.67	-11.25
7	30.00	84.90	-11.12
8	30.00	113.85	-9.28
9	30.00	87.49	-11.00
10	30.00	89.12	-10.55
11	30.00	96.05	-10.48
12	30.00	99.75	-9.78
13	30.00	94.68	-10.41
14	30.00	91.80	-10.50
15	30.00	85.68	-10.47
16	30.00	95.82	-9.83
17	30.00	85.93	-10.79
18	30.00	86.24	-10.80
19	30.00	87.59	-11.09
20	30.00	106.74	-9.19
21	30.00	96.19	-10.12
22	30.00	111.43	-9.73
23	30.00	110.39	-9.44
24	30.00	113.27	-9.49
25	30.00	92.25	-10.53
26	30.00	86.57	-11.31
27	30.00	90.99	-10.70
28	30.00	86.93	-10.77
29	30.00	98.21	-10.20
30	30.00	108.07	-9.51
Average	30.00	95.19	-10.36

Nokian WRG4 Winter Acceleration

Acceleration 0-30 Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	4.74	4.52	4.61	4.56	4.38	4.22	4.76	4.69	4.01	N/A	4.50
Distance (f)	96.25	97.04	92.93	97.65	94.82	89.47	89.46	102.44	85.57	N/A	93.96
Average Acceleration	10.05	9.96	10.41	9.90	10.21	10.82	10.83	9.45	11.31	N/A	10.33
Peak Acceleration	12.29	12.17	12.64	12.34	12.63	12.92	12.96	12.43	13.26	N/A	12.63

Acceleration 0-30 Traction Control Off

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	5.63	5.93	4.27	4.98	4.48	4.56	4.54	4.68	5.21	4.64	4.81
Distance (f)	114.35	118.25	87.04	109.44	95.77	96.69	89.04	95.15	113.32	93.29	99.78
Average Acceleration	8.47	8.18	11.14	8.85	10.11	10.01	10.87	10.18	8.54	10.39	9.81
Peak Acceleration	12.23	12.06	12.59	11.57	13.62	13.39	13.41	12.75	12.55	13.07	12.78

Acceleration 7-30 (Rolling Start) Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	3.42	3.11	3.11	2.94	3.45	3.07	3.02	3.21	3.29	N/A	3.18
Distance (f)	95.61	84.87	84.07	80.79	92.20	82.12	83.29	90.34	88.10	N/A	86.82
Average Acceleration	9.58	10.78	10.89	11.33	9.93	11.15	10.99	10.12	10.40	N/A	10.57
Peak Acceleration	13.28	13.73	12.86	14.45	13.43	13.20	13.53	13.37	13.46	N/A	13.48

Nokian WRG4 Winter Deceleration

Run	Initial Velocity	Distance (f)	Average Deceleration
1	30.00	90.30	-10.91
2	30.00	111.65	-9.76
3	30.00	95.47	-10.34
4	30.00	86.06	-11.10
5	30.00	80.65	-11.84
6	30.00	87.32	-11.20
7	30.00	89.80	-10.49
8	30.00	108.10	-9.92
9	30.00	95.79	-10.83
10	30.00	85.70	-11.20
11	30.00	80.94	-11.13
12	30.00	82.90	-10.98
13	30.00	83.62	-11.12
14	30.00	95.40	-9.99
15	30.00	83.41	-11.10
16	30.00	79.86	-11.62
17	30.00	98.05	-10.38
18	30.00	105.12	-9.99
19	30.00	109.15	-9.56
20	30.00	106.09	-9.61
21	30.00	102.24	-9.75
22	30.00	128.90	-9.03
23	30.00	110.07	-9.28
24	30.00	92.66	-10.85
25	30.00	78.01	-11.41
26	30.00	96.23	-10.49
27	30.00	120.14	-9.06
28	30.00	91.50	-10.94
29	30.00	92.68	-10.69
30	N/A	N/A	N/A
Average	30.00	95.44	-10.50

TOYO Celsius AW Winter Acceleration

Acceleration 0-30 Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	5.03	4.80	5.03	4.43	4.67	4.44	4.76	4.37	4.73	4.42	4.67
Distance (f)	103.42	102.92	110.19	94.84	100.60	94.17	103.84	93.56	103.27	93.59	100.04
Average Acceleration	9.36	9.40	8.79	10.21	9.64	10.28	9.32	10.36	9.38	10.34	9.71
Peak Acceleration	11.43	11.47	11.17	12.86	12.31	12.56	11.04	12.68	11.37	12.35	11.92

Acceleration 0-30 Traction Control Off

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	5.48	5.48	5.12	5.03	5.89	5.39	5.10	4.94	6.32	5.92	5.47
Distance (f)	117.33	116.64	116.82	107.69	115.17	114.07	107.66	104.46	131.88	133.64	116.54
Average Acceleration	8.26	8.30	8.30	9.00	8.41	8.55	9.00	9.28	7.34	7.29	8.37
Peak Acceleration	12.16	11.73	12.57	11.79	11.87	12.11	11.82	11.71	11.11	11.19	11.81

Acceleration 7-30 (Rolling Start) Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	3.70	3.10	3.45	3.20	3.25	3.05	3.53	3.27	3.26	3.14	3.30
Distance (f)	99.10	83.98	95.71	87.99	88.60	82.62	96.06	88.60	89.35	85.77	89.78
Average Acceleration	9.26	10.90	9.61	10.46	10.37	11.08	9.53	10.36	10.26	10.67	10.25
Peak Acceleration	11.92	12.32	12.15	12.69	11.99	12.49	11.67	12.84	12.55	12.58	12.32

TOYO Celsius AW Winter Deceleration

Run	Initial Velocity	Distance (f)	Average Deceleration
1	30.00	90.49	-10.89
2	30.00	88.70	-11.26
3	30.00	100.76	-10.21
4	30.00	92.53	-10.61
5	30.00	95.70	-10.31
6	30.00	90.24	-10.56
7	30.00	87.02	-11.32
8	30.00	93.64	-10.68
9	30.00	85.44	-11.14
10	30.00	88.58	-10.72
11	30.00	97.14	-10.41
12	30.00	88.45	-10.46
13	30.00	97.26	-10.30
14	30.00	87.44	-10.98
15	30.00	86.23	-10.89
16	30.00	90.19	-10.45
17	30.00	86.44	-11.04
18	30.00	87.63	-11.03
19	30.00	86.58	-10.80
20	30.00	90.90	-10.97
21	30.00	93.86	-10.83
22	30.00	99.20	-10.35
23	30.00	90.07	-11.12
24	30.00	85.09	-11.45
25	30.00	87.70	-11.45
26	30.00	90.40	-10.75
27	30.00	101.72	-10.34
28	30.00	84.61	-11.44
29	30.00	93.81	-10.55
30	30.00	85.45	-11.36
Average	30.00	90.78	-10.82

TOYO Observe Winter GSi-6 HP Winter Acceleration

Acceleration 0-30 Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	4.06	3.84	4.11	4.16	3.89	4.25	4.13	4.09	3.81	4.17	4.05
Distance (f)	88.85	82.49	84.30	92.68	82.12	92.88	85.83	88.96	81.93	91.35	87.14
Average Acceleration	10.91	11.74	11.52	10.44	11.78	10.45	11.28	10.88	11.87	10.65	11.15
Peak Acceleration	14.19	13.81	14.18	13.90	14.02	12.99	15.21	14.07	14.52	13.08	14.00

Acceleration 0-30 Traction Control Off

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	3.93	4.52	5.04	4.17	4.51	4.82	4.49	4.17	4.61	5.13	4.54
Distance (f)	82.32	98.25	103.22	86.44	96.88	103.49	94.86	83.68	97.46	102.06	94.87
Average Acceleration	11.79	9.88	9.39	11.20	9.99	9.37	10.21	11.57	10.02	9.49	10.29
Peak Acceleration	15.15	12.90	12.52	14.27	13.17	12.46	11.90	14.77	11.80	11.97	13.09

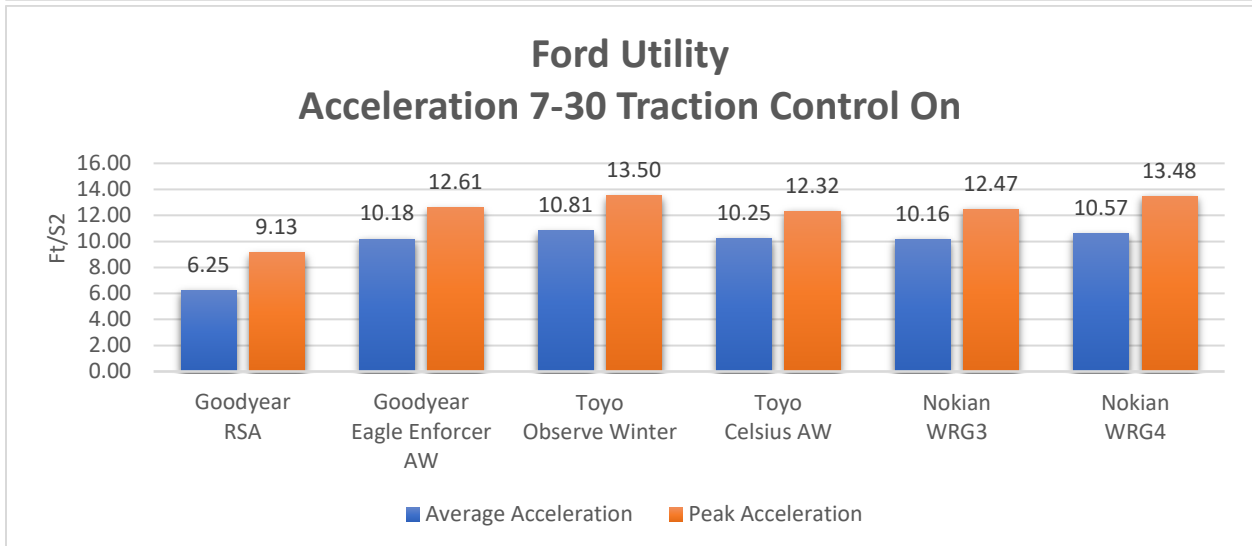
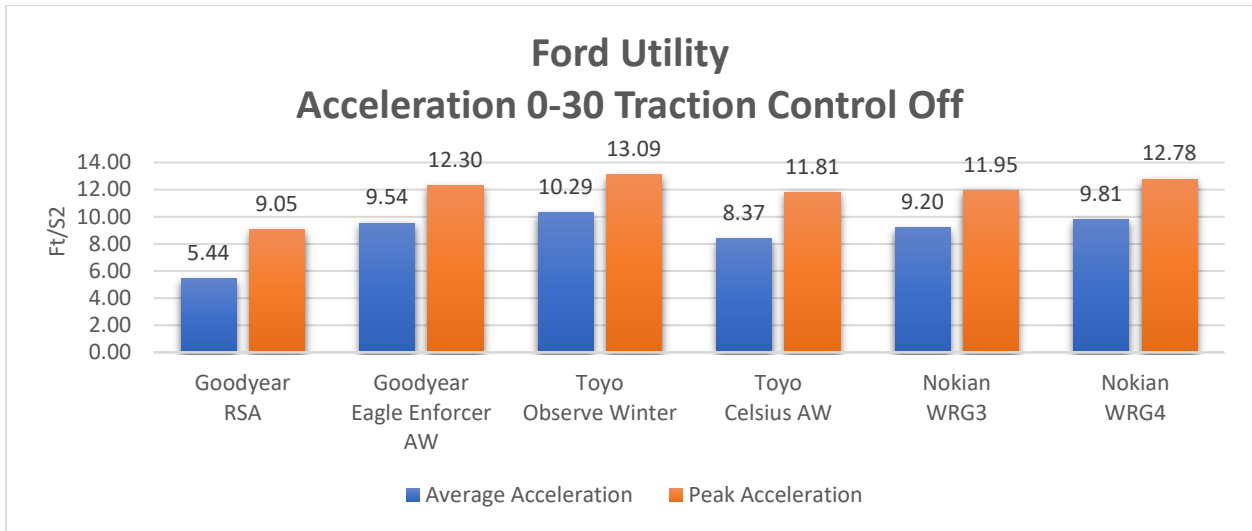
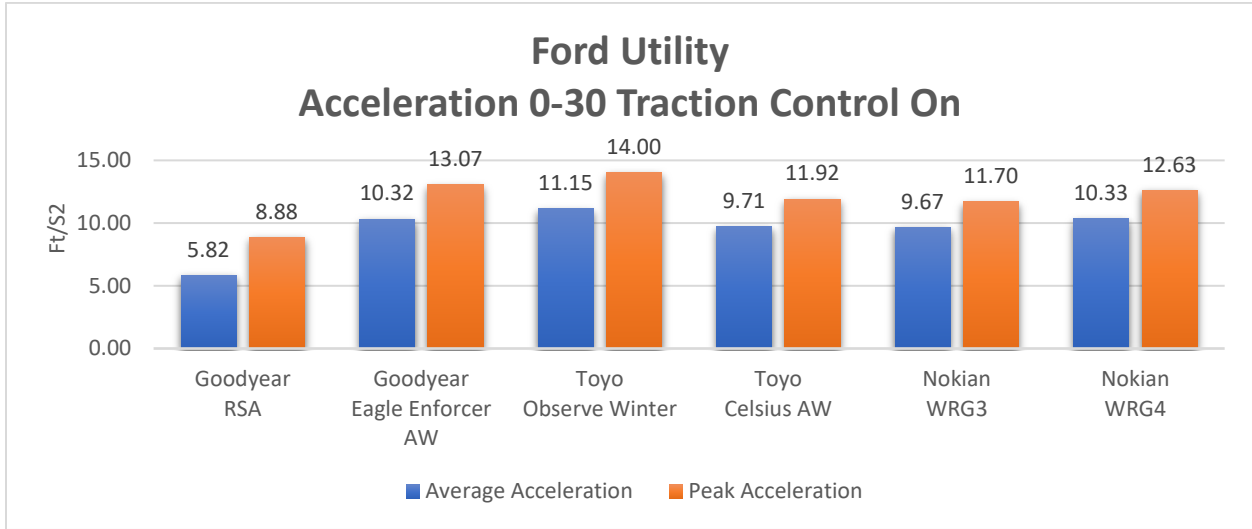
Acceleration 7-30 (Rolling Start) Traction Control On

Run	1	2	3	4	5	6	7	8	9	10	Average
Time (s)	3.18	3.11	2.93	3.09	3.42	3.49	2.97	2.89	3.34	2.90	3.13
Distance (f)	86.12	84.17	79.62	84.59	95.01	92.40	80.19	78.44	91.77	78.52	85.08
Average Acceleration	10.68	10.88	11.49	10.81	9.61	9.92	11.42	11.67	9.96	11.67	10.81
Peak Acceleration	13.17	13.93	13.73	13.16	13.73	12.31	14.38	14.05	12.42	14.10	13.50

TOYO Observe Winter GSi-6 HP Winter Deceleration

Run	Initial Velocity	Distance (f)	Average Deceleration
1	30.00	85.96	-11.57
2	30.00	85.46	-11.52
3	30.00	92.48	-11.17
4	30.00	96.25	-10.88
5	30.00	78.84	-12.27
6	30.00	94.17	-10.93
7	30.00	109.73	-10.08
8	30.00	81.46	-11.94
9	30.00	82.49	-11.90
10	30.00	81.23	-11.88
11	30.00	83.30	-10.99
12	30.00	77.17	-12.39
13	30.00	82.51	-11.58
14	30.00	81.88	-11.93
15	30.00	76.96	-12.23
16	30.00	80.38	-11.92
17	30.00	100.07	-10.74
18	30.00	86.79	-11.34
19	30.00	81.61	-11.23
20	30.00	80.26	-12.02
21	30.00	97.60	-10.83
22	30.00	106.56	-10.44
23	30.00	83.01	-11.41
24	30.00	83.35	-11.75
25	30.00	83.34	-11.43
26	30.00	74.07	-12.84
27	30.00	95.94	-10.64
28	30.00	96.92	-10.66
29	30.00	103.73	-10.06
30	30.00	102.05	-10.05
Average	30.00	88.19	-11.35

Ford Utility Acceleration Comparison



Ford Utility Deceleration Comparison

